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SOME ASPECTS OF HEREDITY.

By Henry Percy Potter, M.D., F.R.C.S.

Being the Presidential Address.[1]

Allow me to take this the first opportunity of thanking you for the position in which you have placed me—President of this Society. I feel that it is an undeserved honour, and one involving great responsibility. I trust, however, with your generosity and co-operation, and with the assistance and advice of the Secretaries, Treasurer, and Council, the Society's proceedings will be carried through pleasurably, and that we shall have a session marked by that success which has attended the Society for so many years. It behoves us to press forward with renewed energy, enterprise and industry, considering the vast and unexplored fields which lie before us, the manifold interests of life and terrible sufferings of disease.

I have thought that in a short address of this nature preference would be given by members collectively to some subject of general interest, rather than one treating of a special department, so I have taken as the title "Some Aspects of Heredity," and I propose to consider the subject chiefly under three heads: first, in respect of structure; second, as

[1] Delivered before the Society on October 8, 1897.

regards the mental faculties; and in the third place, the effects of heredity in disease.

We are all aware that the truly scientific and satisfactory treatment of every disease must be founded on adequate ideas of its causation; this being ascertained, the physician is in a better position to prescribe and carry out appropriate treatment. It is in respect of one of the predisposing causes of disease that I would make a few remarks this evening. We also know that it is deemed to be of the utmost importance to acquire a knowledge of the family history; with this view we determine the existence of "hereditary predisposition." Inquiry is directed to the near relatives, and it is often recommended that the history of disease in grandparents and collateral relatives, uncles, aunts and cousins must not be neglected. The import of this very onerous and lengthy proceeding is by some thought to have special bearing upon etiology; on the other hand, there are those who are inclined to disregard this factor as influenced by family history.

Most patients know little of the diseases of their family beyond perhaps those of their father and mother, the grandparents having suffered from diseases of which nothing is probably known by the patient. As a rule, then, our investigations are confined to the inheritances from our immediate parents, and I venture to suggest that we are inclined to attach undue importance to family histories, and more especially perhaps when disease affects those remote from the individual under observation. As you are aware, much has been written on the subject of heredity, many diverse opinions and much speculative thought expressed, many theories propounded and statistical facts adduced. The small amount of new material in this address to you is comprised in what I shall state later on. It is chiefly in respect of two diseases, to which I shall allude, that I would like to direct your attention. Let me commence by briefly reviewing the work of some who have been engaged in investigating the subject of heredity. The literature is so vast that I cannot pretend, in a brief discourse, to do justice to their ingenious theories.

I suppose few will doubt that in the animal and vegetable kingdoms structure and composition are hereditable characteristics. The important principle that the offspring of every animal or plant resembles its parent in its general characters,

is one that has been long recognised, and forms the basis of organic classification. The distinctive characters of a race are thus repeated in its descendants, but individual deviations constantly occur. But for a difference in age some children can hardly be distinguished from one or other parent, the likeness being so marked.

The forms of *external structure* as transmitted are often very evident: witness the features, the complexion, the size and shape of the body, obesity, even a notch or depression in the thumb-nail, deviation of the end of the middle digit, or flexed little finger as transmitted through several generations.[1] In a case recently under my observation the woman has a dwarfed condition of all the fingers of both hands with the exception of the thumb and ring finger. This deformity was equally marked in the father and in some of his brothers and sisters, *i.e.*, in the paternal uncles and aunts of the patient. In Dr. Sutherland's case of coloboma lately shown at this Society, several members of the family were also afflicted. Dr. Coats, in his work on Pathology, says: "Inheritance has little influence in the causation of malformations. In the case of the slighter forms or anomalies, such as supernumerary digits, inheritance has a most marked influence, but in the monstrosities proper it has little or no effect. The more considerable malformations, however, seem to be more dependent on accidental or local circumstances." Fortunately we find marriage doing much to correct these tendencies towards deformities.

As regards *internal structure* the proportions of the bones and organs are undoubtedly hereditary. By inheritance the heart may be large or small; a full-blooded condition or great development of the nervous or muscular systems may be passed from parent to offspring. There are, however, characters and conditions in man which are apparently also dependent on heredity and which *may* be due to structural peculiarities, *e.g.*, fecundity, length of life, immunity from contagious disease, bodily activity, grace of movement, power of the voice, keenness of sight and style of hand-writing. Conversely, persons of middle height may produce tall chil-

[1] *Ency. Amer.*, New York, 1886.

dren, and in other points of structure there are sometimes wide differences between parent and offspring.

The passing down of structural peculiarities is not so evident as it might be, were it not for the sexual union of persons of every condition of organisation. So that in the words of Niebuhz, "aristocracies obliged to recruit their numbers from among themselves become extinct after passing through degeneracy, insanity, dementia and imbecility." On the other hand, "if the parents are too greatly unlike in organisation no offspring will be produced. If too closely similar, as just remarked, the offspring is defective in body and mind, as if parental similarity had caused partial or local arrest of development. Therefore a certain degree of difference in temperament and bodily organisation (but not too great a difference), is necessary for the best results of sexual union. Thus, close breeding is apt to yield imperfect offspring, and the union of unlike species to result in infertility;"[1] and we often witness the results of close-breeding in inter-marriages of relatives.

I may mention three instances exemplifying the contrast as between parents and children. A dwarf, 33 in. high, had well-formed, vigorous parents. The well-known case of the porcupine man arose from normal parents. Joined twins may differ. Of the joined twins of Presburg, one was handsome, gentle and sedate, the other ugly, ill-conditioned and quarrelsome. The marked difference in these two individuals is peculiar, for during impregnation and gestation they were exposed to similar influences and conditions. According to Dr. H. S. Williams, "A simple principle may become very complex in its application. Indeed, a stumbling-block of most alarming dimensions appears at the very outset, if we attempt to apply the principle of heredity intelligently to any higher animal, in the fact that two parents are to be considered. Instances of every possible case of transmission of parental characters may be found. Thus the physical characters of the father sometimes descend to the son, sometimes to the daughter, so the characters of the mother may reappear now in the male, now in the female children." The parents are not precisely like one another, hence in the nature of the case

[1] *Ency. Amer., op. cit.*

the offspring must be either identical with one parent and unlike the other, or else identical with neither. Here theory wavers, but experience proves that the offspring usually combines in some measure the structural qualities of both parents; hence that it never is precisely like either of them. What then becomes of the principle of heredity? It appears that like does not beget like in the sense of identity; and if "*like*" is only meant to convey a sense of general similarity, it is altogether too vague a principle to have practical utility. In point of fact, however, no such vagueness exists. The seeming obscurity results partly from the complexity of the conditions and partly from misapprehension of terms. The explanation is found in the fact that heredity implies both the transmission of certain structural conditions and of tendencies.

But this leads us to enquire what is meant by the term heredity. It is open to many interpretations. Some say that it is that state descending by inheritance or transmitted by descent. It is obviously more correct to speak of it as the transmission of the characters or qualities of parents to their offspring. Speaking loosely we often say that consumption, insanity and heart disease are hereditary. Strictly speaking the statement is never true. An inherent weakness or susceptibility of lungs, brain, or heart—a tendency towards disease of these organs—may be transmitted, but not the diseases themselves. What that tendency is which predisposes to certain diseases in certain families has not been determined.

"Two parents having qualities unlike, and often mutually exclusive, cannot transmit these qualities to their common offspring, but they can transmit all their tendencies to that offspring, even though these tendencies be antagonistic. An organism cannot be two things at once, but it may tend to be many different things, antagonistic tendencies within it constantly struggling for the mastery.

"Aided by external conditions, the tendencies at one time subordinate may at another time become dominant. Failing of such favourable conditions, tendencies may keep up an unequal and seemingly insufficient struggle throughout the lifetime of an individual, without once making themselves manifest, and yet be transmitted to the offspring with such potential force as there to become operative."

To tangibly illustrate: if one parent has brown eyes, the

other blue, it is evident that both cannot transmit the colour of the eyes to the child. Of course we know of cases where children have one brown eye and the other blue, but these are exceptions. But one parent may transmit a tendency to brown eyes, the other a tendency to blue, and according as one tendency or the other proves the stronger the child will have brown or blue eyes. Suppose the brown-eye tendency prevail for the moment—that is, for that individual—the blue-eye tendency is not eliminated; though dormant for that generation, it may re-assert itself so strongly that a child of the next generation will have blue eyes, though its parents will have brown eyes.

But if we are to trace back our qualities to our *ancestors*, and make an attempt to prove those characters hereditary, we shall find a delightfully easy way of asserting that all our peculiarities are transmitted. The argument might be carried back or extended *ad infinitum*, as we find in the remarks of Dr. S. Williams. Thus he says: "A tendency may remain dormant and perhaps unsuspected, not merely for one, but sometimes for many generations, becoming at last manifest again in a remote descendant. And this is as true of mental and moral tendencies as of physical. In short, the observed facts would seem to warrant the conclusion that the organism never relinquishes any tendency it has once acquired, but holds it in stock, if need be generation after generation, awaiting an opportunity to herald it forth." He goes on to say, "only by such a supposition can we explain the commonly observed fact of inheritance from remote ancestors, or as Darwin calls it, atavism. Manifestly, then, we should greatly err if we attempt sweeping forecasts of a child's hereditary tendencies from a study of its parents alone. Nor will it suffice to turn to grandparents, or even great-grandparents. Atavism assuredly reaches farther back than these. But if we invoke a remoter ancestry we shall be dumbfounded at the response. Behold them! There were 8 great-grandparents; 32 individuals in the generation before that; then 64, 128, 256. We have now reached back only to the time of the Pilgrim fathers. And still they accumulate, these unavoidable ancestors. In the tenth generation they number a thousand, omitting an unimportant dozen or two for the sake of round numbers; in the twentieth generation they are an army of a

million. And this is going back only to the twelfth or thirteenth century. One need but go a little further, and the seemingly unassailable figures will name him an ancestry coextensive with the entire population of the globe. Thus we are proven brothers in fact as well as name." I think that no assertion such as this will warrant any conclusion for or against hereditary tendencies. We must look more directly home, we must limit our investigations to the sphere open to our examination. For if we argue on the ancestral basis, it would not be difficult to trace the origin of our modern pug-dog to the wolf, and our domestic tom-cat to the leopard, which are theories only and cannot be conclusively proved.

We have considered what bearing structure has upon heredity, and we have endeavoured to show that structural peculiarities have a vast and undoubted influence upon the offspring. This is true of man, animals, and plants.

Now, gentlemen, if I am not wearying you I will briefly touch upon the second part of my subject, *The Mental and Moral Tendencies; the Mental Powers and Faculties.*

Human experience is concerned with three knowable elements: first, man's material environment, inanimate and animate; second, man himself as an individual in all its characteristics, from his place in the animal kingdom, through his special physiology and psychology; third, man's associations and institutions. I will refer in this section to one of these elements, viz., environment.

In the case of the great men of the world, in some rare instances one or both parents were above the average in mind. In most cases there is no evidence of this, and as a rule, in such cases the parents have been below their offspring in intellectual powers. In no instance, so far as I can ascertain from history, can great intellect be traced beyond two or three generations. The descendants of great thinkers descend at once to the common plane in intellect. The greatest men of the world usually stand alone, with no family link of greatness above or below.[1] Handel's father was a surgeon. Haydn was the son of a poor wheelwright. Liszt's father was an accountant's clerk. Titian was the son of a lawyer. "A great artist is a great man, and if he finds the

[1] *Ency. Amer., op. cit.*

outlet for his talent closed on one side, he forces his way through on the other."[1] The skill of a pianist's fingers acquired through practice cannot be passed on, and the improved powers granted or developed by education, it may be said, last only for one generation. There are kings whose ancestors have certainly been educated for 600 or 800 years, and their powers are not in any way greater than those of average men; while the professional families, of whom many exist both in Great Britain and Germany, are much like other families in their powers of perception or of thought. Half the children of such families, indeed, are commonly more stupid than the average, the boys frequently being dolts, while the girls remain bright, or *vice versâ*. We know, too, that in all ages men of the highest mental power have appeared, so that for a man of to-day to think himself mentally stronger than Plato would be to show that he was incapable of comparison or blinded by vanity; and it is a little difficult to understand how, if mental power is transmitted, that a caste has not grown up, differentiated in intellectual force not only from the majority but from the average. There is no such caste in existence, nor can it be proved that there ever was one, though it ought to have been produced among the families which were the depositories of all learning of their time. Therefore I venture to say that the powers of the intellect in their varied phases are seldom derived from parents or bestowed upon offspring. Look at our leading statesmen. Have they sons equal to them in knowledge or oratory? If not, why not, if there is anything in hereditary gifts? Why should not *all* their sons and *all* their daughters be equally intellectual, provided the mother's mental condition be normal? We witness the same in the children of our Poets and Painters, in whom alas there is too often evidence of a marked divergence from the parent-type.

It cannot be doubted that *environment* as it affects structure and physical development has a close relation to, and a decided bearing upon, mental and moral characteristics. The imitative qualities in the young are often amusingly prominent, as also is mimesis in respect of manner, voice, gesture, &c.

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[1] A. Weismann, "The Germ-plasm," London, 1893.

Human beings are moulded to their surroundings. The value of education has for all time in civilised communities been recognised as a gradual process which shapes, or at least modifies the intellectual forces. Educational advantages for several generations may possibly lean to mental improvement in the general offspring, but there always appear exceptions in individuals, the cause of these social failures not being known or ascertainable. The mind seems more plastic than the body, the former being exposed to a greater variety of influence; and special divergencies are produced in it by intellectual environment such as we know existed between the Greeks and Romans. These plastic mental faculties of organic beings have steadily yielded to the force of influence, internal and external, and have gained new forms and conditions despite the action of a highly vigorous principle of heredity. Distinctive qualities of nations are well portrayed by historians. Contrast the intellectuality of the Greeks, the cruelty and warlike spirit of the Romans, the trading tendency of the Jews; these are clearly imitative characters, so that national peculiarities and class distinctions are maintained. At the present day we find that the opposite conditions are observed in the United States, where classes, sects and privileges have no rigid existence. It seems as if heredity acts chiefly on the body, very little if at all on the mind. The child receives his complete body from his parents. He receives only the germ of his mind. Nothing is imprinted on the mind at birth, and his individual mental stores must be gathered by himself.[1]

In the words of our immortal Shakespeare, "'Tis in ourselves we are thus or thus. Our bodies are our gardens to the which our wills are gardeners. . . . So that if we will have it sterile with idleness, or manured with industry, why the power and corrigible authority of this lies in our wills." Therefore we think that certain pernicious habits such as alcoholism which are often spoken of as hereditary traits are not transmitted. It has often been asked if a child isolated from drunken parents, would when he grows up crave for intoxicants. I think not. Then what explanation follows the constant and recurring fact that children in this respect

[1] *Ency. Amer., op. cit.*

follow their parents? I assume the answer to this question to be Example and Imitation.

There are I feel sure many in this room who in their few—too few—spare moments have studied that admirable philosophical work by John Locke, "An Essay on the Human Understanding." In it he forcibly points out that "We" (I suppose the structurally normal and healthy) "are born with faculties and powers capable of anything—such at least as would carry us further than can easily be imagined; but it is only the exercise of these powers which gives us the ability and skill in anything and leads us towards perfection. Observation, therefore, is the fountain of knowledge from whence all the ideas we have, or can naturally have, do spring." Locke does not deny that natural disposition may often give the first rise to one's inclinations, but that never carries a man far without use and exercise, and it is practice alone that brings the powers of the mind as well as those of the body to their perfection. It would appear to me that, now-a-days, much is classed as heredity which doubtless belongs to education and acquirement. Many a good poetic vein is buried under a trade and never produces anything for want of cultivation. The different manners, gestures and modes of conversation of men brought up as lawyers, physicians, merchants and city men—are these innate or acquired? Locke answers there are "no innate principles of the mind." Thus it is contended that we derive all our knowledge by two means, (1) by sensation, *i.e.*, through our senses; (2) by reflection. But besides peculiarity of structure, we probably have born in us aversion to pain, delight in pleasure, self-love and preservation, and the need of food, or sense of appetite, and very little besides these. The mind at birth has been compared to an empty cabinet. By Aristotle to a sheet of unwritten paper. Professor Sedgwick says, "Man's mind at first is one unvaried blank, till it has received the impressions of external experience." Briefly, the progress is as follows: in infants the senses are first impressed, lodged in the memory, names are given to objects, then follow ideas, language, and lastly, reason.

It will be seen that Locke's ideas of heredity and innate principles are philosophical and speculative. They are, however, none the less to be credited, and lose little of their

worth on this account. For the abstruse hereditary functions of the brain are as impossible of determination and proof by scientific study as by philosophical enquiry.

A most peculiar and sometimes serious result would arise if the psychical characteristics of our parents were transmitted. On the one hand, our virtues would be intensified by a process of evolution; on the other hand, our vices would eventually be magnified. In the case of virtuous parents the children would need but little moral supervision; the influence of vicious parentage could not be annulled by training. If we trust to inheritance as accounting for the propensities of our children, we should frequently consider it of no avail to bestow pains upon their welfare.

The arguments of the Neo-Darwinians have been fortified by the publication of Weismann's "Germ-plasm," in 1893, which propounds perhaps the most elaborate and ingenious theory of heredity yet advanced, although it may not generally be accepted. He says there is a continuity of germ-plasm, *i.e.*, a continuity between the reproductive elements of one generation and those of the next, and therefore the germ and sperm have an existence apart from and independent of influences affecting the rest of the body. Weismann denies the inheritance of individually acquired characters, which being due to environment are restricted to the individual organism and are not transmissible. His own words are "In each development a portion of the specific germ-plasm which the parental ovum contains, is not used up in the formation of the offspring, but is reserved unchanged to form the germ cells of the following generation."[1] This means that continuity is maintained by the plasma of nuclei, and that there is early insulation of definite germ cells (Geddes and Thompson). So that heredity is implanted in the germ cell and transmitted or conveyed. The individual may become weaker, therefore also the germ cell, hence there will be a weakened condition of the offspring. It is said that hereditary tendencies are produced by sexual reproduction, and this theory has now many adherents. "Sexual reproduction is well known to consist in the fusion of two contrasted reproductive cells, or perhaps even in the fusion of their nuclei alone. These

[1] Weismann, "The Germ-plasm," London, 1893.

reproductive cells contain the germinal material, and this again in its specific molecular structure is the bearer of the hereditary tendencies. Thus, in sexual reproduction two hereditary tendencies are in a sense intermingled. This mingling is the cause of the individual characteristics, and in the production of these characters the *task* of sexual reproduction." Accordingly we can realise the origin of the material for the individual differences, from which selection produces new species. To sum up Weismann's theory :—

The reproductive cells of multicellular organisms contain two sets of bodies, (α) the immortal or stable germ-plasm; (β) the mortal cells of the body proper—the *soma* which surrounds the germ-plasm.

The predispositions are contained in the germ-plasm, and are entirely uninfluenced by external agencies. When the ovum becomes fertilised it is supposed that the germinal vesicle contains vital particles of very minute size—Herbert Spencer called them "physiological units," Darwin refers to them as "gemmules," and Weismann "biophors"—which are destined to determine the evolution of the individual in all details of structure (Coats).

Disease.—It has long been recognised by pathologists that the natural tendency of the body is to revert to the normal standard. This is apparent in disease as in many hereditary tendencies. A healthy man with a good family history marries a woman in whose family there is susceptibility to furnish a nidus for an invading host, be it in the nervous, circulatory, or pulmonary systems—the offspring will most likely be healthy.

It cannot be doubted that in exceptional cases, as in syphilis and variola, disease passes to the offspring; but the fact that the larger number of the children of parents suffering from various diseases are not affected will support the contention that disease is rarely transmitted. We go so far as to say there may be hereditary predisposition to disease, but unless the individual be exposed to certain injurious influences which conduce to disease, the latter will not appear. No one will deny that certain structural diseases, *e.g.*, goître and hernia, may be directly transmitted and congenital in the same way as family peculiarities. These are potential or present at the time of birth. If the right methods of physical and moral

invigoration are employed for the welfare of the body, then it is possible to ward off the tendency to morbid action. Syphilis appears to be a rare instance of a disease capable of being passed direct to the children. A case of remarkable fertility in a syphilitic woman and transmission of the disease was recently recorded in the *Lancet* by Dr. C. Williams. The woman had been pregnant twenty-one times, and in summarising this interesting record we find there were ten miscarriages; five children died within a few months of birth, all of syphilis; of the living children two are syphilitic, and only three are healthy, and one rickety. For some years I have been careful to go as fully as possible into the family history of *phthisis*, because the scope for such enquiry in the Infirmary is large, and that we have in phthisis a disease which formerly, by many, was regarded as typically hereditary. We now know that tubercle is due to the ravages of micro-organisms which have not been demonstrated as transmissible from parent to offspring; and it may be inferred that many diseases hitherto considered as hereditary are due to non-transmissible organisms. In phthisis, infection of the fœtus *in utero* does not occur, and it is only a special susceptibility of the tissues and a want of resistive power which is passed on.[1] We have already said that tendencies and predispositions to disease may be hereditary. Even this, I venture to remark, is capable of being shown only by the life-history of a large number of cases. But when we come to the question of the previous surroundings of those with phthisis we can only wonder that the disease is not more prevalent. Unhealthy occupations and modes of life, bad ventilation with re-breathed air, adulterated and noxious food, such as milk from tuberculous cows, but worst of all careless expectoration, absence of disinfection of handkerchiefs and linen before sending the same to the laundry—these, I find, potent means for the distribution of chronic pulmonary tuberculosis. It is astonishing how many laundry-maids are affected, what a large percentage they represent! May not the alternation of heat and cold *plus* infection from sputum account for this fact? When first I was led to inquire into the hereditary causation of phthisis, I regret no notes were made, no figures tabulated.

[1] Harris and Beale.

I blame myself for this. Later, the significance of the family history induced me to record all cases admitted. In each the diagnosis was confirmed by four colleagues. In many instances no reliable data could be furnished by the patients respecting their parents, and the disease-history and incidence of phthisis in the children were often uncertain. Patients' friends were interviewed where doubt existed, and all but authentic cases are excluded from my list. The result is that I have records of but 229 patients, and these refer to the father, mother, brothers, and sisters. I have to thank Dr. Acland, of the Brompton Hospital, for rendering me assistance.

Phthisis being a widely-spread disease and predisposed to by insalutary conditions, it is not surprising to find so many cases quite independent of hereditary taint. The homes of phthisical persons are often squalid from lack of means to keep them pure, and to provide the children with food, so that the family is placed in the actual conditions favourable for the development of the disease. This environment leads to an enfeebled state of the tissues which is non-resistant to the invasion of the bacillus. My tables of percentages of family history in respect of phthisis are as follows :—

TABLE I.

Males. NUMBER OF CASES, 143.		*Females.* NUMBER OF CASES, 86.	
Family History in—		Family History in—	
Father	11 = 7·6%	Father	12 = 14·0%
Mother	16 = 11·2%	Mother	15 = 17·4%
Father and Mother	5 = 3·5%	Father and Mother	1 = 1·1%
There were 713 brothers and sisters of these patients, of whom 39 were suffering or had died of phthisis ...	= 5·4%	There were 369 brothers and sisters of these patients, of whom 30 were suffering or had died of phthisis ...	= 8·0%

We observe that the maternal hereditary transmission operates in both sexes more strongly than the paternal.

The disease-histories of the children of phthisical patients have not been ascertained because they were for the most part too young to have developed the disease as determined by physical examination. It remains to inquire what proportion of healthy persons, or persons not suffering from

acute or chronic pulmonary tuberculosis, give a family history of this disease. The following is a summary of my notes :—

TABLE II.

Males. NUMBER OF CASES *without* PHTHISIS, 136.		*Females.* NUMBER OF CASES *without* PHTHISIS, 178.	
Family History of—		Family History of—	
Phthisis in Father...	3 = 2·2%	Phthisis in Father ...	20 = 11·2%
Phthisis in Mother...	8 = 5·8%	Phthisis in Mother...	21 = 11·2%
Phthisis in Brothers and Sisters	... 21 = 15·0%	Phthisis in Brothers and Sisters	... 64 = 36·0%

It is seen in this table the ratio of incidence of phthisis in the families of patients unaffected with the disease. I would specially draw attention to the larger proportion of brothers and sisters affected as compared with the same members of the families of individuals with phthisis.

There seems to be much confusion as to the relative importance and frequency upon the hereditary factor in *epilepsy*. Some eminent psychologists aver that to substantiate the importance of heredity in certain mental diseases of a functional character it is not necessary to look for identical phenomena in each new generation, and that a family whose head dies epileptic does not of necessity consist of epileptics, but the children may be idiots, paralytics or scrofulous. Doubtless many members present to-night know of children born in an apparently good physical and mental condition, who, during dentition, had convulsions followed by epilepsy. And it is reasonable to suppose that alcoholism in a parent may cause such instability of the brain in the child that a fright, fall, or some other exciting cause may be sufficient to produce epilepsy. Among the laity it is considered ominous for epilepsy to exist "in the family," but it is astonishing to find how few are the patients with this disease who inherit it from either parent, or whose brothers and sisters are affected. Of nearly 1,000 cases of epilepsy and imbecility admitted to the asylums hospitals under the Metropolitan Asylums Board, only 6 per cent. were ascertained to be hereditary; therefore it appears an infrequent factor as the cause of epilepsy. These patients do not often afford one facilities for going satisfactorily into their family histories, for their memory for

past events is often defective, and their intellect dull. Their statements must always be substantiated by their near relatives. In this connection I have visited Caterham Asylum, in which institution there are some hundreds of epileptics; enquiry has been made at Leavesden, an asylum also for epileptics and imbeciles, and it is due to the kindness of the medical superintendents that interesting information has been placed at my disposal.

From a long series of cases my figures are as follows:—

TABLE III.

Epileptic Males.		*Epileptic Females.*	
Epilepsy in one parent ...	10%	Epilepsy in one parent ...	11%
Average number of brothers and sisters of each patient = 5, of whom 2% had epilepsy.		Average number of brothers and sisters of each patient = 3, of whom a small fraction (a negligable quantity) had epilepsy.	

While epilepsy *quâ* epilepsy is not a markedly heritable disease I find the causes to be head-injury, insolation, lead-poisoning and syphilis.

Perhaps too little has been done in ascertaining the part inheritance or environment play in determining the varying degrees of susceptibility to infectious diseases, cancer, and gout. Take the latter. In few things has there been a more satisfactory reformation than in dining and the subsequent drinking which used to follow it. No wonder that gout was *thought* hereditary in every family of consequence. Beginning early, men ate to satiety and soaked afterwards like so many sand-beds. Tables groaning under ponderous joints mangled by the guests were the survivals of the barbaric banquets of Northmen and Saxons. The hæmorrhagic diathesis affords much scope for future work, for doubtless we have here to deal with a structural defect in the blood-vessels rather than in the blood itself. It is well known that the children of the affected individual often escape. All the children of the sons, and the female children of the daughters also escape, but the sons of the daughters are commonly affected. This fact was shown by a genealogical tree which I assisted in constructing some time ago in respect of cases of bleeders.

As an example of a disease in which the chemistry of the blood is altered in its organic quality we may instance diabetes

—an obscure affection with heritable tendencies. Here, although one member of the family may alone be affected, the disease is often represented in the brothers and sisters by epilepsy or allied neurosis.

I have briefly touched upon two diseases, viz., phthisis and epilepsy, in which, during my spare time, I have interested myself. What a wide sphere is open to us for investigating the family histories of these and other diseases!

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GUNSHOT INJURIES IN THE LATE GRECO-TURKISH WAR, WITH REMARKS UPON MODERN PROJECTILES.

BY HENRY J. DAVIS, M.A., M.B., B.C.Cantab.

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IT is almost true to say that all bullet wounds, except those limited to the soft structures, result in fracture of bones. If there is any breach of surface it is of necessity a compound fracture, and is the most unfavourable form of any kind of bone injury, for (1) the wound is an infected one, (2) it is devoid of drainage owing to the long sinus left by the track of the bullet, and (3) the hygienic surroundings are invariably bad. When a joint is opened by a bullet it communicates with the exterior, and being exposed to all the sources of ordinary infective processes, it suppurates. A fractured olecranon, a fractured patella, and an impacted Collis's frac-

ture are fractures into the joint, but suppuration does not occur unless contamination is admitted to the seat of injury.

It is not my intention in this paper to give a routine description of bullet wounds, but I will confine my remarks to examples of projectile wounds that I saw in the late Greco-Turkish war. Definitions never cover all the ground; but I remember Sir William MacCormac's excellent definition of a bullet wound as "an extreme form of contused wound combined with the dangerous depths of a punctured wound." Shell wounds, of course, differ in the respect that they usually result in extensive lacerations of the soft tissues, with perhaps comminution of the bones as well.

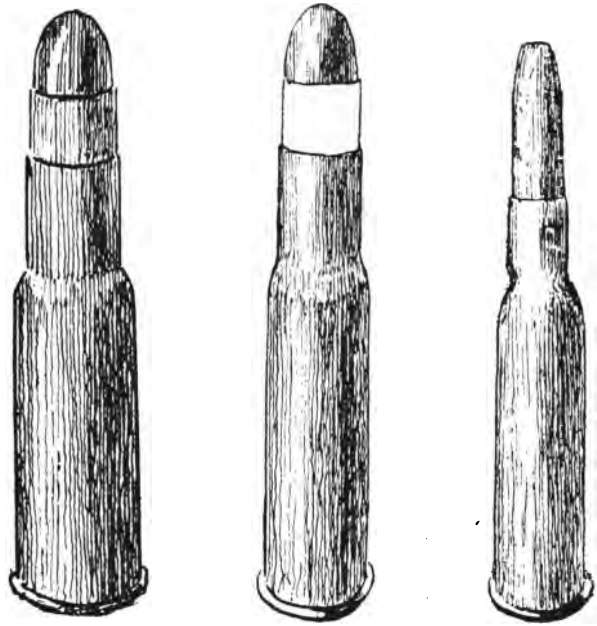

FIG. 1. FIG. 2. FIG 3.

Fig. 1.—Martini-Henri Cartridge (Turks). Fig. 2.—Le Gras Cartridge (Greeks). Fig. 3.—German Mauser Magazine Cartridge (Turks).

Modern Bullets and the Wounds they Produce.

Practically only three kinds of rifle bullets were employed in the war. The Greeks used the Le Gras French rifle with a

Chassepot lever action. In fig. 2 is shown one of the cartridges (which they sometimes, as a punishment, hammer up each other's noses) and fig. 7 represents a ball that entered a Greek soldier's back, which, like two more given me in Turkey, showed absence of rifling grooves. This I cannot explain. The Turks used chiefly the Martini Henry, but some brigades were armed with the German Mauser magazine rifle. Only two of these brigades, that is, about 10,000 men, came into action at Domoko, and it was from this battle and that at Phourka that we filled our hospitals with wounded. A Martini bullet extracted from the foot is shown in fig. 5. It had perforated and fissured the os calcis, but the shape of the bullet is almost unaltered. Another (fig. 6), extracted from the left nape of the neck, was impacted and wedged between the atlas and axis, but the bones were not, as far as I could see, splintered. The cutaneous wound was as clean cut as though it had been incised with a knife, and hence I inferred that the bullet had ricochetted off a stone, and I think its general flattened appearance bears out the supposition. The swelling and œdema of the neck were enormous. The wound granulated rapidly. All the bullets extracted at the English hospital at Chalcis, and there were not many, proved to be Martinis (with the exception of one Shrapnel ball and two Le Gras bullets, evidently fired by the patient's compatriots). We never found a single Mauser.[1] I believe none were extracted at the English hospital at Athens, and I could get no specimen at the military hospitals at Chalcis. As a great many men were perforated in the part struck by the ball, and were not completely incapacitated, and it is known that the velocity of the Mauser is something terrific (being effective up to 4,000 yards), it is reasonable to assume that this bullet perforates the part struck, including perhaps the bone, and does little damage compared to the Martini, which, when it strikes a bone, such as the femur, fissures and splinters it in all

[1] Since the reading of this paper, and its publication in the *British Medical Journal*, I have seen the base of a Mauser bullet, detected by the X-rays, and extracted at the English base hospital at Piræus—a portion of the flattened head I myself had extracted six weeks previously; the base proved it to be a Mauser bullet, which was split into two parts by contact with the bone. In this case there was a severe compound fracture of the right humerus.

directions. The disadvantages of the Martini rifles compared to the present magazines rifles are, briefly, that they "kick" hard, they do not repeat, they are short ranged, and the cartridges are heavy to carry. Conical bullets never make the wounds that round balls do, but the trajectory is flatter, they carry straighter, and kill at a greater distance. It may be of scientific, though not actually of surgical interest, to mention a few facts about the bullets employed in modern warfare. I have no specimen of the Mauser bullet, but the French Le Bel bullet (fig. 12) resembles it in many ways.

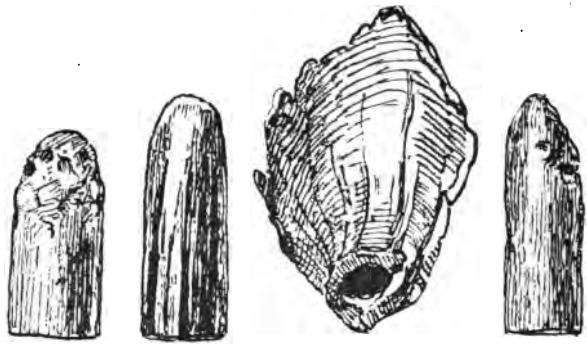

FIG. 4. FIG. 5. FIG. 6. FIG. 7.

Fig. 4.—Turkish Revolver Bullet. Fig. 5.—Martini Bullet, showing rifling (it perforated and fissured os calcis). Fig. 6.—Martini Bullet embedded against vertebræ of neck (probably a ricochet). Fig. 7.—Le Gras Bullet (absence of rifling grooves).

This was given me four years ago by a French sergeant. In the cartridge is the patent French smokeless powder, which is yellow, and resembles chopped straw; it is perfectly smokeless. This bullet, like the German Mauser, and to the same extent the first Lee-Metfords used by our entire army, consist of a soft lead core surrounded by a nickel casing. Theoretically on impact the ball flattens or splashes, but this it does not always do. The le Bel bullet shown in fig. 12 has been fired as is seen by the rifling, but the nose of the bullet is not altered in shape. In the late Chitral expedition, the English troops noticed that their Lee-Metford bullets did not stop the tribesmen in their wild rushes, and so the ingenious and practical method was resorted to of cutting through the nose of the bullet, or of rubbing it against a stone, thus

exposing the soft lead core, which had the desired effect. The velocity of the Lee-Metford is so great that it is said to do more damage at a distance than at close quarters. This was proved experimentally. Three shots were fired, not by me, at an old donkey who was eating hay in a paddock. The bullets passed "clean through" him, but he went on eating as though nothing unusual had happened, and it was not till, I suppose, the symptoms of rapidly advancing peritonitis ensued that he desisted from his meal. The latest Lee-Metford (fig. 11) has a nose of soft lead projecting beyond the nickel jacket. This "umbrellas" or "mushrooms out," the less yielding metal behind becomes impacted, and the ball opens into a disc and splashes, causing a very cruel wound.

FIG. 8.

FIG. 9.

FIG. 10.

Fig. 8.—Soft Nose Lee-Metford. Fig. 9.—Wax-cored Lee-Metford. Fig. 10.—Lee-Metford with soft lead core and vertical slits in outer nickel casing.

A specimen of the bullet in section is shown in fig. 11. Other Lee-Metford modifications are shown in the diagram. One (fig. 9) is filled internally with soft wax; this other has

vertical slits in the outer casing. These modern bullets are termed "expanding" bullets. The famous Dum-Dum bullets (fig. 13) are the latest, and derive their name from the Government Manufactory in India. They are not made in England, and at present they are simply on their trial against the Frontier tribes. The bullet resembles a slate pencil, and is a modification of the latest Lee-Metford, but the nickel shield is thinner, and the soft nose is flat and does not project so far from the nickel envelope. It was devised in recognition of the facts I mentioned above in the Chitral expedition. I am told on authority that on impact it collapses like a concertina, making so ghastly a wound that in all probability it would be forbidden in European warfare. Why it should do so more than the Lee-Metford no one seems to know. In my opinion all these so-called "expanding bullets" create injuries not widely different from those

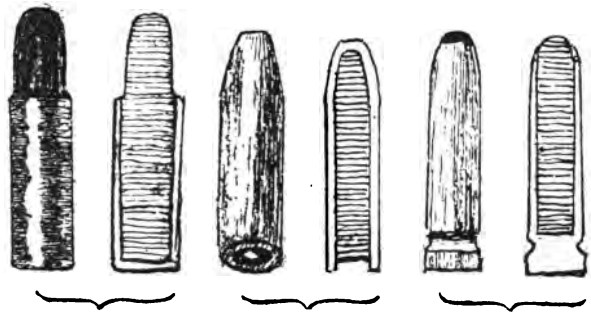

FIG. 11. FIG. 12. FIG. 13.

Fig. 11.—Soft Nose Lee-Metford Bullet ·303 in elevation and section. Fig. 12.—French Le Bel, in elevation and section. Fig. 13.—Dum-Dum, in elevation and section.

caused by "explosive bullets," but apparently the clauses of the Geneva convention have not as yet been violated. The expansive principle has been carried to its greatest extent in this "Webley's patent man-stopping bullet."[1] The Service revolver bullet (fig. 14) which certainly looks big enough, is said to be utterly devoid of "stopping properties" unless it strikes a vital part, whereas the bullet shown in fig. 15, with its deep cup-shaped depression at each end,

[1] *The Field*, August, 1897.

gives up the whole of its energy in administering the greatest possible shock. When fired through 18 inches of solid beef it assumes, as is seen from fig. 15, the shape of a lady's sun bonnet or an antiquated top hat. On entering the body, the front acts like a wadding punch, cutting a clean circular hole, which does not close up, as do wounds caused by other bullets. Expansion commences at once, and after travelling six inches it produces a jagged hole four inches in diameter, a wound doubtless sufficient to finish even a fanatic.[1]

Shell Wounds.

Shrapnel and common shell were employed by both Turks and Greeks. We saw several severe lacerations caused by common shell. The worst was that of a young Greek woman, who had the back of both thighs hugely lacerated, the raw area being extensive. She had no fracture. She was in the Chalcis Hospital for two days on a stretcher, but we shipped her off to the Piræus, where she became convalescent and did well. Pieces of rock and stones are thrown up by shell and may do considerable harm. Shrapnel, which consists of round iron bullets surrounded by the shell casing, did little harm in this campaign. I saw some cases in the Turkish hospitals, but in the English hospital we only saw two in which we were certain that the injuries were caused by Shrapnel. One of my colleagues extracted a Shrapnel ball embedded in the right trochanter. The femur as far as we could ascertain was not otherwise injured, though there may have been fissures radiating from the cavity. Movement at the joint was always free. The patient convalesced very slowly. The other case was that of a gunner, who had a round shot hole through the left calf, the aperture of exit being extensive. He thought he had only been struck by a bullet, but I noticed scorching of the skin and hairs around the wound as well, and as the Turks were bursting Shrapnel at his battery and some exploded near his feet, I have no doubt this was caused by that projectile. A well-known war correspondent who left Greece after the battle of Pharsala owing to ill health, told me that up till then

[1] *The Field*, August, 1897.

he had not seen for certain a single injury caused by Shrapnel among the Greeks. He had seen, at Trikhala I think, two men supposed to have been thus wounded. As no Greek surgeons were at hand he went into the hut where the men were to render assistance. One he found had a large syphilitic ulcer on the leg, and the other he stripped and examined carefully, but he could find nothing wrong with him except a large corn on his left foot. The immunity from injuries due to Shrapnel fire, I think, can be explained thus:—In common shell there is a bursting charge of powder in the body; on impact a needle in the cone is driven against the percussion cap and the shell explodes, the fragments being scattered in all directions, radiating from the centre. A common shell then does just as much harm if it bursts 100 yards from the

FIG. 14.

FIG. 15.

Fig. 14.—0·476 Revolver Cartridge. Fig. 15.—Webley's "Patent Man-Stopping Bullet," in elevation and section, and the same when fired.

gun muzzle or three miles off, that is, at the extreme limit of the range of the gun. But with Shrapnel it is very different, the bursting charge in the base, ignited by an adjustable time fuse, is only just sufficient to release the bullets from their casing, that is all; they fly straight on, and their powers of damage depend not on the bursting charge, but on the momentum of the shell at the time of the explosion. Therefore the greater the distance from the gun at which it bursts, the less damage the bullets will do. The Greek infantry preferred not to expose themselves to the Turkish shell firing, or, indeed, to any other for the matter of that, and

hence their comparative immunity. Shrapnel wounds, then, are practically round shot wounds, and are not as a rule a combination of bullet wounds *plus* the disastrous effects of common shell explosions. The base of a Turkish Horse Artillery shell, a 12-pounder I should think (shown in fig. 16), was given to me by one of the Red Cross Sisters who picked it up on the field of Velestino. The gauge is marked on the base in Turkish letters. It must have burst splendidly. The dangerous zone of Shrapnel, if it bursts at so high an elevation as 80 ft. from the ground, is about 2 acres. The cone of dispersion of the bullets is simply in the direction of the

FIG. 16.

Fig. 16.—Base of Turkish common shell. Twelve-pounder. Showing complete symmetrical fracture.

travelling projectile, and the base of course widens the farther the bullets travel. When troops therefore present a small front, as in marching up a road, the shell is timed to burst close to the advancing column, when if properly directed it sweeps the whole line of men; if a larger front is presented the shell is burst well ahead to sweep a greater area. Shrap-

nel firing, then, requires a very accurate knowledge of distance and gunnery to be effective. The shrieking of bursting Shrapnel is caused by the released bullets whistling through the air, and resembles the screaming rockets that are fired at the Crystal Palace. It has a very demoralising effect on troops, and even if no one is hit, all are frightened a good deal more than they would care to admit. I was told by a Turkish surgeon in Constantinople in the Sultan's Hospital, erected temporarily at Yildiz Kiosk, that they had suffered much from Shrapnel; in other words, the Greeks were better gunners in spite of the fact that German officers were said to be assisting the Turks, who also fought more in the open and almost scorned to take shelter when advancing. There were many more casualties on the Turkish side than on the Greek, though all the Greek hospitals were filled to overflowing. These remarks may seem to have little bearing on the surgical aspect of my subject, but is it not the nature of wounds caused in battles that determines the continued use or the disuse of certain projectiles, and by whom can these be better judged than by the medical men who have the care and charge of the wounded?

Character of Wounds.

If I were asked what were the points that struck me most in injuries of this kind (for with the exception of a few revolver and gunshot wounds which I had seen in hospitals, my knowledge on the subject was very limited) I should say that I was at first surprised at the comparatively little damage done by rifle bullets. In some cases, it is true, it was enormous, but in the majority of wounded men, the ball had passed straight through the part struck, leaving a tiny bluish black hole at each end, resembling to my mind, a magnified leechbite wound of about three days' standing. In most of the cases it was impossible to tell by the appearance of the wounds which was that of entry and which was that of exit; the patient himself could rarely say, and it was only by ascertaining his position when struck that this could be determined. Some of the edges of the entry wounds were inverted, but not all; some, especially the oblique wounds, were round and gaping. The wounds of exit in many cases seemed the same as those of entry; a few, however, had

everted edges. Superficially the wound is nearly always smaller than the bullet that produces it. This has been accounted for by the great twist there is on the ball at the time, like the screw on the turning-point of a gimlet—but is that really so? I should say that a bullet traversing the whole body would not revolve on its long axis more than, at the most, half a turn, unless it is arrested in the tissues, when theoretically it would spin like a top; and if flattened, would plough through the tissues like the revolving blade of a screw propeller, hence the area of the internal wound often bears no proportion to that of the external wound. If an express bullet be fired into a thick board it will hardly be possible to pass even a wire down the track of the ball. I asked nearly every wounded man I saw in the war, however slight the wound, excepting perhaps grazes and hand wounds, whether he was knocked over when struck. This seemed to be invariably the case. When hit, he experiences the sensation of a sudden heavy blow. If wounded in the head, trunk, or lower limbs, he does not fall forward as one sees on the stage, but he collapses and sinks to the ground, turns pale, sweats, and often vomits. All this may be due to the mental shock, or the consciousness that he has at last succumbed. The ball rips through the tissues, carrying in pieces of cloth or other foreign bodies, which are left in the bullet track, leading to suppuration and the formation of a troublesome sinus, and requiring the continual "tinkering" which is characteristic of these wounds.

I believe it to be a fact that the Lee-Metford and other modern bullets have so high a velocity, that at close quarters pieces of cloth, &c., are not carried before the bullet in its track. I wish especially to point this out as a very significant fact, for it means that the severity of the wounds as regards infective processes is thereby diminished. Another point I noticed was how very difficult it was to tell at a glance whether a fracture existed or not. This may be due to the fact that there is not a complete solution of continuity of the bone, and as the fracture is due to direct violence very little displacement arises. I observed many instances of this. One man, I remember, was struck when the right elbow was flexed in the act of firing; there was one wound over the olecranon and another about 2½ inches above the joint posteriorly. There

were swelling, œdema, and extravasation of blood up the arm, but though I was certain a fracture, and an extensive one, too, existed, there was no backward displacement of the forearm, such as we see in a transverse fracture above the condyles, nor could I detect crepitus. Forcible manipulation was not attempted for obvious reasons. Later, when the œdema disappeared, a great mass and thickening of bone was felt at the lower end of the humerus. The sinus proved troublesome, and the patient suffered considerably. Some time later the joint was opened posteriorly, and the sinus scraped. The fracture was in the process of repair, but there were still evidences of a comminuted fracture of the bones. The man did well.

Another case was that of a bullet wound on the outer side of the left thigh, the patient having been shot from the hills above while fighting through the Phourka Pass. The wound was oblique, and the ball in the limb. A first dressing had been applied by the Greek military surgeons, who are most careful in their antiseptic methods. The patient was huddled up with 300 other wounded in the hold of a collier, used as a transport, which presented the most gruesome sight of tortured humanity I have ever seen. When taken to our hospital, he "hobbled" to a chair, and I redressed the wound. I suspected a fracture from the swelling of the limb; but I thought it might be partial only. When the patient was in bed, on raising the foot it was quite apparent. Large pieces of bone were resected in this case. The femur was comminuted and fissured in all directions, fragments being driven into the adjacent muscles, and yet the characteristic deformities on which we rely in the diagnosis of fractures were not apparent. The veriest tyro in surgery could detect, at sight, a fractured femur in the middle and lower thirds in an ordinary accident, unless, perhaps, the fracture was transverse, as often occurs in children. There was no overriding of fragments in this case, as there were practically none left to override. The limb became gangrenous, and it was amputated by one of my colleagues, but the patient died some hours later. A search was made for the ball in vain; it may have been comminuted itself. That it was a Martini I have no doubt, as the Mauser Brigade did not come into action at Phourka, where this man was wounded. The wound well

exemplified the fact that the extent of the deep injuries inflicted bears an out-of-the-way proportion to the small area of the external wound.

Bone Injuries.

I have already mentioned some interesting clinical facts on injuries to bone. It was very noticeable how rapidly wounds of the upper extremities, and severe ones, too, such as compound fractures of the humerus, healed compared to corresponding wounds of the lower limb. Some of the cases of fractured radius practically healed under a scab, and in one case there was no exfoliation of bone whatever. The heel and ankle injuries did badly. Unless the fracture is keyhole, there is nearly always comminution, by which we mean secondary fractures at the seat of injury. Many of these little fragments must be stripped of their periosteum, but they do not always necrose, for they serve as a mechanical scaffolding for the granulations to grow on and to ossify. The heat produced by a bullet striking a bone may be very great, and it is said to add to the severity of the injury. What we view in a museum specimen is not the bone itself, but the skeleton of the bone, and when inflammation resulting from injuries occurs, the hard substance merely takes on a passive inflammation, the active inflammation being limited to the soft structures in the Haversian canals, which become swollen and œdematous from exudation with the production of new bone. A bullet injury, apart from the inflammation set up at the seat of fracture, may result in osteitis, or even in periostitis. The former is very common and requires continual surgical interference. I saw an admirable example of the latter at Vienna. Here a femur had been amputated for old gunshot injury, but I noticed on its surface, in addition to the deformed mass of osseous tissue at the seat of fracture, a beautiful series of longitudinal grooves extending up the shaft from the enlargement of the periosteal vessels. The condition was that of an osteoplastic periostitis.

Wounds of Joints.

That a bullet wound of the knee-joint does not always suppurate, perhaps resulting in irreparable harm, was proved by the Mayor of Lamia, who fired at some sheep in a pass and

hit a refugee woman in the right knee. The ball had perforated the outside of the joint. She eventually came to the English hospital at Chalcis, where she was treated as an outpatient. We fixed the limb in an improvised splint, and after a few attendances, and when she was almost well, she disappeared, so it is only fair to assume that she made a perfect recovery. We had another bullet wound of the knee-joint. The ball, a Martini, lodged in the outer condyle. It was extracted, some osteomyelitis was perhaps set up, but the patient, when he seemed on the high road to recovery, suddenly died with symptoms of pulmonary embolism.

Injuries to Soft Parts.

(1) *Contusions.*—If a man is struck obliquely by a bullet a simple contusion may result. There may also be a subcutaneous fracture. We saw one instance of this. The right ribs were " black and blue " from extravasation. It was assumed that a fracture of rib existed, though crepitus was not detected.

(2) *Furrowed Wounds.*—A ball may run parallel to the surface grooving it—"furrowed wounds," as they are termed. A man had been struck in the right cheek and the bullet lodged in the jaw. The cheek was cleanly furrowed, leaving as the base the mucous membrane of the mouth. There was some necrosis, but a plastic operation was performed by my colleague, Mr. Fox Symons, with admirable result.

(3) *Seton Wounds.*—A ball fired obliquely burrows for some distance just under or a short distance beneath the skin, and then emerges. A gendarme at Lamia tried to interfere in a quarrel between two other gendarmes who, as preservers of the peace, were doing a little pillaging on their own account. A few shots were exchanged, with the result that the spectator was shot through the right pectoral region with a revolver. The bullet burrowed under the right pectoral region and passed out at the axilla. The track of the bullet was marked by a ridge of elevated tissues for the whole of its extent (about six inches) with great redness and enlargement of glands. It seemed to be a case in which it was feasible to lay open the whole sinus, and this I did, and scraped the track with a Volckman spoon, removing at the same time several pieces of cloth. I am certain, judging by other cases, that this would have produced a troublesome sinus, if not a worse result,

but as it was, after paring the edges of the pectoral muscle and inserting some deep stiches, the wound, to my surprise and gratification, practically healed straight away, and the patient, though one of the last in, was the first out of the hospital.

(4) Sometimes a ball enters the tissues and falls out again. I may give an amusing example of this. A soldier was struck in the middle of the back in the left erector spinæ. There was simply a wound of entry. I asked the patient, through an interpreter, whether the military surgeons had removed the ball. He replied in the negative. I proceeded to search for it, but without avail. There were no signs of abdominal injury. I made a second search next day, enlarging the wound and probably giving the poor fellow much pain. He then inquired what I was doing to him, and on being told I was trying to extract the ball he replied, "I have it here in my shoes. I found it in my trousers after the battle." The bullet (fig. 2) is a Le Gras bullet, evidently fired by his own side, so the wound was not so dishonourable as might appear. There is no rifling on the ball.

(5) A bullet may perforate a part of the body struck, and emerge, almost unchanged, or it may undergo comminution itself without necessarily fracturing a bone, though bones are really not so hard as is assumed. An example of the first was that of an English volunteer who had been engaged with the Turkish Mauser brigade. He had been shot under the right clavicle, and the ball had passed out posterior to the scapula, which must have been perforated. The wounds of entry and exit, which seemed exactly of the same size and character, healed rapidly under a scab. How the vessels and nerves about the region escaped was a wonder. He had no hæmoptysis, but some part of the lung must have been wounded. He had been shot at about 800 yards, and as the Mauser is good for 4,000 yards, it presumably ripped through the part, and proceeded with almost undiminished velocity. Another remarkable case of vessels and nerves escaping was that of a patient struck in the left palm while in the act of firing. The ball entered the web of the finger and passed out at the ball of the thumb. There was no loss of sensation or any signs of injury of the median or ulnar nerves, and the palmar arches presumably also escaped. We saw several perforating flesh wounds of the thigh, but the vessels escaped.

Chest Injuries.

An Evzone[1] was shot through the left shoulder. The humerus was not fractured. The bullet, a Martini, we found by the X-rays in the lung. Pneumonia, pleurisy, hæmorrhage into the pleura and empyema rapidly supervened. The chest was first aspirated, and then a portion of rib excised. The patient was extremely ill, and had it not been for the excellent nursing he received at the hands of the Red Cross Sisters he must inevitably have died. The ball will doubtless become encapsuled, as is the case with General Smolenski, who carries a ball in his lungs to this day. Another lung case was that of a man shot through the right chest. The ball emerged to the left of the ensiform cartilage; a fracture of the rib existed. The patient had pleurisy, diphtheria, pleurisy and pneumonia on the other side, and eventually had a biliary fistula in the axillary line about the level of the fourth rib. The ball had perforated pleura, lung, diaphragm, and injured also the liver. We left both these cases in the Queen's Hospital at Athens, convalescent.

Pelvic and Abdominal Wounds.

Pelvic wounds are very serious, and used to be a frequent cause of pyæmia. We saw a very severe case. The patient was a Garibaldian volunteer, aged 17. He was fighting the Turkish Mauser Brigade and was struck in the left hypogastrium. He had been in the German Red Cross Hospital at Stylida, but after the battle at Phourka he was sent on to Chalcis. The abdominal tissues were sloughing. The bullet had perforated the small intestine in several places, passed through the bladder, through the rectum (the two holes could be plainly felt by examination), and out through the buttock. There had been localised peritonitis, and the matted gut was raised out of the pelvis, leaving a cavity filled with pus, large sloughs, urine, contents of intestines and undigested curds. It had to be emptied and dressed every four hours. I used to get my right hand through the abdominal opening into the pelvis and scoop out the stinking contents with the palm. A more disgusting, dreadful condition I never saw. The poor

[1] Evzone (*ἐυ ζωνα*, that is, "well belted") a term applied to the kilted regiments of the Greek army.

fellow became emaciated to a degree, but hung on to life with wonderful pertinacity, but he eventually died of exhaustion. Among other interesting cases was one which at first appeared to us to be a furrowed wound, about the level of the natal fold of the left thigh. The ball, I assumed, had not passed into the thigh. There was no dressing on the wound, though the patient had been wounded at Phourka about thirty-six hours before. I found him in the hold of the collier already referred to, and as he looked extremely ill, and we only took out the worst cases, the journey from Chalcis to Athens being about twelve hours, I assumed he was more severely wounded than at first appeared to be the case. The wound was dirty and the clothes, covered with mud, grime and blood, were in contact with the wound. The patient had several rigors which he attributed to fever, of which he was a continual sufferer (and I did find the spleen enlarged), and asked for quinine, which is a drug every one takes as a preventive. Next day I found the thigh immensely swollen, as though hæmorrhage had occurred into the limb, and there was emphysema from the thigh almost to the ankle. Amputation was out of the question, as the abdomen was discoloured; but several long incisions were made, and gas hissed and bubbled out of the limb, mingled with dark venous blood. The stench was awful. The bullet, a Martini, was found just under the skin, which it had undermined for about two inches from the spot which I assumed was the exit of the ball. This, then, was a case of acute emphysematous gangrene. The case was hopeless, and patient died four hours later. We isolated him as best we could, but he happened, before I discovered his condition, to be in the next bed (and from want of space they were necessarily closer to each other than was scientifically correct) to the patient before-mentioned whose femur was amputated. I cannot say whether one infected the other. Nothing further of the kind occurred in the room, though there were several severe injuries to lower extremities, splintered tibiæ, perforating wound of ankle, two of the os calcis, a laparotomy, and several very serious cases besides.

The laparotomy case was that of a man who was shot through the abdomen, the ball passing out in the flanks. He had signs of internal hæmorrhage. My colleague, Mr. Abbott, opened the abdomen and removed clots, but could find no

injury to intestine. As there was no hæmaturia, presumably the spleen was lacerated. The patient made an uninterrupted recovery. This was the only laparotomy on the Greek side during the war that I heard of. Some had been performed by foreign Red Crescent surgeons with the Turks, but these I am told mostly proved fatal. Whatever correspondents may have thought of the fighting propensities of the Greeks, I must say that the wounded were most heroic in enduring their sufferings and privations. Mr. Abbott is himself reading a paper later on his cases, and I therefore wish to thank him for his courtesy in allowing me to mention them before their publication.

ULTIMATE RESULTS OF OPERATIONS FOR HERNIA.—In the *Rev. Med. de la Suisse Rom.* (July 20, 1897), there is a *résumé* by Tailens of 324 cases of hernia operated upon in the hospital service of Roux, which affords opportunity for fruitful study, the more so that only cases which have gone over two years since the operation, and which have been personally traced, are included in the tables. These herniæ were 288 inguinal, 22 femoral, and 14 umbilical, and the recurrences were respectively 16·7, 27·3, and 0 per cent. Taking the inguinal cases alone the influence of age was most apparent, the recurrences for each decade of life being 5, 10, 15, 25, and 32 per cent., the latter including all cases over 40 years of age. Two methods of operating were employed, viz., that of Bassini fifty-three times, and simple suture of the pillars either in one or two layers; the operation of Ferrari in 235 cases. Cases operated upon by the former method recurred to the extent of 39 per cent., while following the latter only 12 per cent. relapsed. This is directly opposed to the experience of some American surgeons. The cases which healed primarily did better than those which healed by granulation, the figures being respectively 15 and 22 per cent. Atrophy of the testicle occurred in 4 per cent. of the Ferrari operations, and in 7 per cent. of the Bassini's. An attempt was made to ascertain the virility of those having double herniæ, but the replies were unsatisfactory, partly because many of the men were not married, and also because it could not be definitely shown that they were the fathers of the children attributed to them. The author gained the impression, however, that these men were less fertile than normal.—*Philadelphia Medical News.*

Report of Proceedings.

Ordinary Meeting—Friday, October 8, 1897.

Dr. H. P. POTTER, President, in the Chair.

The PRESIDENT delivered his opening address, which is published in full on page 1.

THE VOTE OF THANKS.

Mr. KEETLEY: I have great pleasure in proposing a vote of thanks to our President this evening for his most excellent and thoughtful address. We are particularly fortunate in having Dr. Potter in the chair for the coming session. He is one of the original members of this Society, and has always taken a very deep interest in its affairs and in its welfare. He has brought before us many varied and valuable contributions, and from the large clinical field over which he is head he has shown us many interesting cases, and to-night he has read to us an extremely interesting paper, the matter and suggestions of which are conclusive evidence of his clear insight into and deep study of the subject of heredity. I ask you, therefore, to accord him a hearty vote of thanks for his Presidential Address.

Dr. SYMONS ECCLES: It affords me great pleasure to second the vote of thanks to our President, which I am sure will be carried with more than usual enthusiasm, because the matter of the address reflects credit on our own perspicacity in having chosen one so able as Dr. Potter to initiate and preside over the proceedings of this session. It is particularly interesting to note the different points of view from which the same factor in the equation of life is approached by two observers so well qualified to formulate their opinions on the influence of heredity in disease as the Presidents of the Neurological and West London Medico-Chirurgical Societies respectively. Dr. Savage, in his address on "Heredity and Neurosis," evidently regarded the importance of the heredity as much greater than Dr. Potter is disposed to admit in regard to the maladies to which he has more particularly referred in his statistics to-night, and I think we may congratulate ourselves upon the comfortable doctrine of our President; for with the substance and environment of our patients we may be able to deal successfully, but with their heredity we can do nothing; so that careful observation supporting the view that heredity may not always frustrate

our best weapons in fighting disease, must needs be encouraging to those of us who are inclined to regard family history as a very serious element in the prospect of success.

The PRESIDENT: It gives me much gratification to hear the kind remarks of Mr. Keetley and Dr. Symons Eccles both upon my holding the Presidential chair of this Society and upon my address to you to-night; but I am afraid they are all too eulogistic in both aspects. I take this opportunity of once again thanking you for placing me in the Presidential chair, and for the very kind way in which you have recieved me to-night.

Ordinary Meeting—Friday, November 5, 1897.

Dr. H. P. POTTER, President, in the Chair.

Mr. MAITLAND THOMPSON read the notes of:

A Case of Cerebral Hæmorrhage in a Child aged 13.

which is published in full on page 54.

The following discussion then ensued:—

Dr. S. A. BONTOR: I have been much interested in Mr. Thompson's case because a similar one occurred in my own practice recently.

A girl, aged 11, previously well and healthy, went to bed quite well and had a good night, noticing nothing on waking, but on jumping out of bed felt giddy and sick. This was an ordinary occurrence, but on this occasion she was more dull than usual.

She presented no symptoms or signs of paralysis or of cerebral irritation; she was kept in bed and treated for a bilious attack. Suddenly, about 8 p.m. the same day, she became collapsed and died almost immediately. *Post-mortem*, there was a large hæmorrhage on the right side ploughing up the brain and entering the lateral ventricle; the cerebral vessels presented nothing abnormal; the heart, kidneys and all other organs were healthy, except that on the left broad ligament there were two small parovarian cysts about the size of a hazel nut. Her mother died from cerebral hæmorrhage at the age of 54. Cases of cerebral hæmorrhage are rare in the first half of life, and especially so among children, while they occur in proportion of one in females to two in males, so that this case is of a most unusual character. I shall be glad to hear opinions as to the frequency of cerebral hæmorrhage in children, and also points as to diagnosis; for although in my case the diagnosis, however correctly made,

could not have affected the result, yet had it been made it would have led to a prognosis more in keeping with the fatal issue of the case, and so more satisfactory to myself and the parents.

Mr. BRINDLEY JAMES: I am very much interested in the remarks made by Mr. Maitland Thompson on this subject, and I have thought that a few notes of mine would interest the members of the Society. I was called to see A. J. D., aged 11, the son of a cooper, living at 93, East Lane, Bermondsey, on October 15, 1884. He was a pupil at the Rouel Road Board School, and had complained of having been kept late at the school preparing for examination. While eating his breakfast he complained of his fingers feeling strange, and remarked that he should not be able to hold his pencil at school. He then began to tremble, and became sick, when his mother administered some brandy and water, which he could not retain on his stomach. He was afterwards laid on a bed, when he became delirious, after having complained of a throbbing sensation in the head. As he appeared to get worse, I was called in and found the boy dead. From what I had gathered from the foregoing description of the boy's symptoms before death had taken place, I came to the conclusion that he had died from cerebral hæmorrhage, aggravated by over-pressure at school. On examining the deceased I found all the appearance of apoplexy, which was subsequently confirmed by a *post-mortem* examination made by Dr. Marshall and myself on the following Tuesday, October 21. On opening the head and examining the brain we found a large clot of blood in the right hemisphere.

Dr. W. S. COLMAN: Cerebral hæmorrhage in early life is certainly rare. There are scarcely any cases of cerebral hæmorrhage (other than meningeal) extensive enough to cause rapid death in the *post-mortem* records at the Great Ormond Street Children's Hospital. Some years ago I was requested by the coroner to make a *post-mortem* examination on a child of 12, who had died under somewhat suspicious circumstances. I found that death had been due to a hæmorrhage into the temporo-sphenoidal lobe. Examination of the heart showed that there was ulcerative endocarditis, and a septic embolus appeared to have determined the hæmorrhage. I should like to ask Mr. Maitland Thompson if there were any endocarditis in his case.

Dr. J. D. E. MORTIMER: I may say there is one specimen in the Museum of the Hospital for Sick Children showing extensive extravasation into the substance of the brain, and in this case there was some suspicion of new growth, and certainly extensive thrombosis of sinuses. Hæmorrhage from the capillaries and veins of the pia is of course not

uncommon at an early age from such thrombosis, also in conditions of asphyxia or general tendency to hæmorrhage, such as purpura, but from the cerebral arteries it seems to be very unusual. Atheroma may occur in exceptional cases and give rise to aneurism, or the latter may be due to infective arteritis following embolism. One or two fatal cases have been recorded as due to miliary aneurisms, which although usually associated with chronic nephritis may, according to Charcot, be quite unconnected with renal atrophy, enlarged heart or atheroma, and their pathology seems to be still uncertain. May I ask if the vessels at the base of the brain were carefully examined?

The PRESIDENT: I wish to refer to three specimens of cerebral hæmorrhage which have been exhibited of late years at the Pathological Society of London. One was in a boy aged 5 years, and shown by Dr. Handford. In this case there was thrombosis of the venous sinuses and a large hæmorrhage of the middle lobe on the right side, and numerous hæmorrhages on the surface of both hemispheres, but no source of the bleeding was found. There had probably been increased vascular tension due to the obstructed sinuses and exudation of blood. Dr. Collier showed a specimen in the case of a female aged 6 years. There was hæmorrhage into the pons and crus. The third case was exhibited by Dr. W. W. Ord, and showed a large subdural hæmorrhage occurring in infantile scurvy; there were bleeding from the gums and subcutaneous hæmorrhages, but no symptoms pointing to intracranial pressure during life. In none of the cases were there miliary aneurisms nor ear disease.

Mr. MAITLAND THOMPSON: I desire to emphasise the following points in connection with the case I have recorded in my paper. The boy had enjoyed good health, and at the time of the onset was peculiarly free from any exciting cause of hæmorrhage; there was no injury and he was on low diet. The symptoms were chiefly those of cerebral irritation, vomiting, shading the eyes from the light, headache, paralysis with unconsciousness, followed by convulsions, and then rigidity, with conjugate deviation of the eyes, and this ending in coma. In reply to Mr. Brindley James, I have to say that my case is unlike his in that it had no exciting cause, such as over-pressure at school, as he had been kept in one room on low diet for a week previous to attack. In answer to Dr. Colman, there was no heart disease found and no evidence of any embolism. Neither did the case present any tuberculosis, nor any miliary aneurisms.

Dr. HENRY J. DAVIS read a paper on—

Gunshot Wounds in the late Greco-Turkish War.

which is published *in extenso* on page 17.

The following discussion then took place:—

Dr. THUDICHUM: Having in my younger days gone through three campaigns as a military surgeon and physician, I was very much interested in the paper, which has invited comparison. The projectiles are much altered in shape, form and effect. While the oval heavy ball of the needle gun at its most effective distance produced a cylindrical canal, driving skin, flesh and bone before it, the conical hard, narrow, and light projectiles of the present day produce less loss of substance, and penetrate at the most effective distance with less injury to the parts adjoining the path of the ball. They splinter the bones, particularly the spongy heads, mark less than the old "Brown-Bess" ball and its congeners did, and penetrate clean, with indescribable force, through great thicknesses of timber and through a number of men. Hence on the whole wounds will be lighter and easier to heal, but some forms will be the reverse. I allude to gunshot wounds on the head, received while the soldiers are lying prone and shooting over their knapsacks. The oval and round lead bullet produced frequently a compound fracture of the whole of the crown which was frequently curable, even after long paraplegia, but the conical ball was rarely so arrested, and penetrating into the brain proved fatal. The conical balls also produce less bruising round the entrance, so that it is scarcely necessary to cut away the fringe of bruised skin, as we did in 1850 to promote healing by first intention. The wounds also will contain pieces of cloth much more rarely than they did when hard and oval heavy balls were used. Modern artillery also will produce wounds mainly by the explosion of conical bombs and shrapnel, while solid balls will, if at all, be little employed in open battle. The splinters of bombs produce a multitude of remarkable injuries: the large pieces often kill without external wounds, the fine splinters cut through parts without leaving more than a prick in the skin; I have known such a splinter no larger than a penknife enter the face below the left eye, cross the nose, cut and paralyse the facial nerve, splinter the ear canal and leave by the right mastoid. The hospitals of Metz contained many gravely injured men thus struck by artillery, and also a number with heavy comminuted fractures of limbs without wounds. The Turks and Greeks shared the advantage of our more humane treatment of the wounded, who were quickly removed from the field

and brought under the hands of the surgeons, including the volunteers, who, like Mr. Davis, went on the philanthropic mission as an officer of the Red Cross Society, and yet treated the men of the crescent with equal love and skill.

Dr. SYMONS ECCLES: I should not obtrude on the attention of the meeting any remarks on this paper, were it not for the historical interest which it has particularly for me, since twenty years ago I spent twelve months with the Imperial Ottoman troops in Thessaly, and subsequently passed through the Russo-Turkish campaign. The similarity in the nature of the wounds, whether from infantry or artillery fire, is a matter for surprise; though in the former case I note that the weapons of the Turks were for the most part *Martinis* as they were in 1877. I should like to hear something of the relative proportion of killed and wounded, and whether the author of the paper noted the effect of malarial poisoning on wounds, a subject to which I believe I first drew attention in the Stafford House Committee Reports, afterwards quoted by Sir J. Fayrer in his great work on "The Fevers of India." My own experience was that, in addition to the surgical fever attending severe wounds, frequent attacks of ague complicated the cases and were marked by great changes in the condition of the injuries.

After the discussion on the paper Mr. HENRY J. DAVIS further added: As regards contusions around the cutaneous wounds, there was some bruising, of course, and some necrosis and sloughing of the free edges, but I cannot say this was marked; whether there was less than in cases in the Franco-German War I am not in a position to say. As I mentioned, we found no Mauser bullet in any patient; this I think is due to the extreme velocity of the bullet, and to the fact that, unlike the Lee-Metford bullet, the soft lead core is not exposed anteriorly, expansion then is not so liable to occur, hence the part struck is perforated.

The Martini bullets *do* carry in cloth and foreign bodies, which are often left in the track of the ball; but I believe this is not the case with the German Mauser or any of the modern high initial velocity projectiles, such as the Le Bel, Lee-Metfords, Dum-Dum, &c., especially when fired at short range. One man had three wounds on the back of the shoulders, but he seemed positive he was only struck once, and this certainly might be due to the bullet skimming the surface, just as a flat stone will do if thrown horizontally across a pond. Replying to Dr. Eccles' questions, I do not know the proportion of dead to wounded; accounts of the losses on both sides differed to such an extent that the statements were untrustworthy. At Velestino, for instance, it was telegraphed that

4,000 Turks had been killed, but an English gentleman, who visited the battlefield on the second day, said that he only counted forty corpses, some of which were stripped and mutilated; possibly, on the other hand, he only came across the unburied. I am, however, certain that there were many more wounded than killed, and I was always under the impression that this was the case in warfare, and am interested to hear that the reverse occurred at Plevna.

I have reasons to believe that in Epirus when the Turks found a wounded Greek they made very short work of him. So great in fact seemed to be the terror that the ferocious Albanians and the relentless Bashi-bazouks[1] inspired into their enemies, that Greek soldiers and officers often told me a great deal of confusion was caused by men carrying wounded friends back through the lines in answer to their piteous calls to be taken off the field at once, or failing that to be shot, for fear of falling into the hands of the Turks. The Turks may have enjoyed a reputation for barbarity in advance of their merits, but it certainly gives one the impression that the Greeks assumed the Turks would eventually carry the position, and this they usually did. At the Battle of Domoko we know that many wounded must have been left on the field on the left wing as the ambulances were deficient, but a Turkish surgeon at Constantinople told me they only picked up one Greek officer and one private—as a sample of each, I suppose. When I asked him if the Turks had bayonetted them, he simply replied in French, "*Ah probablement.*" Whether any patients contracted malaria by direct infection through their wounds I cannot say. Nearly all the wounded had elevations of temperature, and many suffered, and said they were continual sufferers, from a species of fever. But the best marked case of malaria that I saw was in one of our dragomen who was not wounded. Everyone takes quinine as a preventive for Greek fever; in the *cafés* the "pick-me-up" contains bark, practically tincture of cinchona. All the wounds proved troublesome and refused to heal rapidly, most of the wounded being half starved; the transports were to blame for this. There was a great deal of sickness among the troops—fever, bronchitis, dysentery, typhoid and typhus, and most virulent syphilis. The best medicine for the wounded was good food.

[1] Bashi-bazouks are volunteers or irregulars.

Ordinary Meeting—December 3, 1897.

Dr. H. P. POTTER, President, in the Chair.

CLINICAL EVENING.

A Case of Acromegaly.

Dr. J. B. BALL: This is the patient, the full notes of whose case, with a skiagraph of one of her hands—for which I was indebted to Dr. F. H. Low—are published in the October number of the WEST LONDON MEDICAL JOURNAL.[1] I thought that the Members of the Society would be interested to see her.

Symmetrical Tertiary Nodes of the Radii.

Dr. SEYMOUR TAYLOR: This patient, Ellen C., aged 43, is married; has had seven children; three are now living; of the four that died, in one the death took place at fifteen months of age, the second at eight months, the third at two weeks, the last at 22 years. She has not had any miscarriages. There is a history of sore throat sixteen years ago, but no rash; scars on face from an eruption seven years ago. Both radii are affected with bony growths, with periostitis involving the lower one-sixth of the bones. She is rapidly recovering under doses of iodide of potassium, which have been increased.

This second patient, Anne F., aged 62, is married and has two children, who were always healthy and are now grown up. No miscarriages. There is no history of sore throat, nor of rash, nor loss of hair. The husband is healthy, without any previous history of sore throat or rash that she knows of. The nodes in this case have almost disappeared under treatment by large doses of iodide of potassium, after a prolonged mercurial course.

This third patient, Mary J., aged 40, is married, but has no children. She has had four miscarriages. She noticed a rash on the chest, accompanied by sore throat, followed by loss of hair, two and a-half years ago. She has nodes on both radii involving the lower one-sixth in each case. She also has tibial nodes.

In the administration of iodides I find it advisable to begin with a small dose (say 5 grs.) and continue it for some weeks until the system can tolerate the remedy; then the dose may be rapidly augmented to 10 grs., 20 grs., and even ʒi., three times a day. This idea came to me some years back, when, in examining the urines of patients taking iodide of potassium,

[1] *Vide* page 254, vol. ii., 1897.

I found that if a large dose were given at the onset, most of it appeared in the urine; while a smaller dose appeared to be assimilated by the system, and a smaller amount *pro rata* appeared in the urine.

Mr. SWINFORD EDWARDS: I wish to draw attention to the beneficial effects of iodide of sodium, especially when combined with carbonate of lithium, in cases where both iodide of potassium and mercury have failed. I have had two cases of suppurating nodes of the forehead which had derived no benefit from iodide of potassium, but which had rapidly got well under the iodide of sodium in doses of ten grains combined with carbonate of lithium in five-grain doses.

Dr. CHAPMAN: I have had considerable experience of the iodide of sodium, which I habitually prescribe and find most desirable results therefrom.

Dr. MORGAN DOCKRELL: I think that the three cases are of great interest, two presenting scars of well-marked specific lesions, but in the third case, Mary J., there is no such evidence. It would be of interest to know whether this case was not one of those in which syphilis was acquired from offspring *in utero*, and whether these nodes were the first indications of the acquired syphilis, and whether the early symptoms were latent. As to the treatment by iodide of potassium, it is important to remember that often these cases do not yield unless very large doses are given. In a case under my care no benefit was really obtained till doses of 80 grs. three times daily had been given. This is often given with great benefit in a good Burgundy.

Dr. MANSELL MOULLIN: In reference to the remarks of Dr. Morgan Dockrell, I can state that the patient who has no marks on her face, Mary J., was under my care about four years ago when her troubles commenced. The case is not one of congenital syphilis, but was acquired in the ordinary way. In addition to mucous tubercles of the vulva, the tongue and the iris were severely affected. The case was most intractable. After some months of treatment an improvement would take place, and then in three or four weeks she would return as bad as ever. I do not consider 10 grs. of potassium iodide a large dose, and in severe cases would always give 20 to 30 grs. three times daily.

Mr. J. R. LUNN: With regard to nodes on the head, I can say I have obtained the very best results from iodide of sodium, even when the nodes seemed just about to break through the skin.

Dr. WHITFIELD: The patient, Mary J., was under my care in the out-patient department about a year ago. She then had well-marked gummatous nodes on the left ulna. She was

treated at first with 25-grain doses of potassium iodide as the nodes were threatening to burst, and after they had gone down, in about three weeks, with nine grains of grey powder daily. I also had her husband under treatment with bad syphilis, and he died shortly after seeing me of delirium tremens. I had a definite history of the early secondary rash, &c., and believe the disease was acquired in the ordinary way.

Dr. SEYMOUR TAYLOR: Thanks are due by me to Dr. Dockrell for his suggestion as to the acquiring of syphilis in the third case being *in utero*. It is a point which had escaped my observation and inquiry. I also agree with Mr. Swinford Edwards that the sodium salt might be tried with advantage when the potassium salt appears to lose its efficacy.

Mr. KEETLEY then read the notes of:

A Case of Œsophageal and Pyloric Stricture in a Female.

This patient, a married woman with children, accidentally swallowed hydrochloric acid two years ago. Three months ago, when she was seen by Dr. Ball and handed over to me for operation, she was extremely emaciated, and whether the abdomen was viewed from the front or the side, it seemed to be wholly occupied by the stomach. There were the difficulty of swallowing and the vomiting usually associated with œsophageal and pyloric strictures respectively, and other corroborating symptoms. The abdomen and stomach were opened and the pylorus found contracted to the diameter of a lead pencil. The constriction was dilated by a three-bladed urethral dilator to a circumference of four inches. Improvement was immediate. As soon as the patient had fully recovered consciousness (after the anæsthetic) she felt well, and has complained of nothing since but an inordinate appetite. The difficulty in swallowing also passed off. I saw her to-night, evidently healthy and strong. The stomach remains abnormally large, though small compared with its former size.

Mr. KEETLEY also read the notes of:

A Case of Œsophageal and Pyloric Stricture in a Male.

The patient, seen by me with Dr. Hood, exactly a week after the previous case, had swallowed hydrochloric acid, with suicidal intent, three months before. In that time he, at first a powerful, well-nourished man, had undergone extreme wasting. The stomach formed a prominent but small swelling in the normal position. For seven days he swallowed nothing, and was fed entirely by nutrient enemata. No œsophageal bougie or catheter would pass. He was suffering from some

bronchial or pneumonic affection, with copious blackish phlegm.

He was anæsthetised with a view to dilating both pylorus and œsophagus, but under ether his respiration became so bad that no attempt was made to open the stomach. A urethral bougie was passed down the œsophagus, and for ten days he swallowed milk and got stronger. Then he died suddenly. *Post-mortem:* double pneumonia with, in one lung, a coal-black patch as large as a cricket ball was found. The œsophageal stricture had been chiefly spasmodic; the pyloric end of the stomach was ulcerated, thickened and strictured. Emaciation extreme.

This case should have been operated on earlier. If, in the first patient, re-contraction should ultimately take place, I propose to do a pyloroplasty while the patient is still strong.

Dr. J. B. BALL: I may mention a few points in the early history of the first case. She was admitted under my care in February of this year suffering from the effects of swallowing about a wineglass of hydrochloric acid. She gradually recovered, and was discharged after six or seven weeks apparently quite well. She was re-admitted in May with persistent vomiting and great distension of the stomach, and was, in fact, in much the same condition as when Mr. Keetley operated, only not so emaciated. Mr. Bidwell, who saw her in Mr. Keetley's absence, agreed that an operation for relief of the pyloric obstruction was necessary. The day before that fixed for the operation she aborted, being apparently about two months pregnant, although she had no idea she was pregnant, nor had we suspected it. A few days after the abortion she began to improve, and in three weeks she was discharged quite well, eating ordinary food and suffering no inconvenience. In August she came up again complaining of the old symptoms. She would not come into the hospital then, but was ultimately admitted in the condition described by Mr. Keetley.

Mr. J. R. LUNN: I am sure we must all congratulate Mr. Keetley on his very successful case, and we are much indebted to him for his practical suggestions. I came down to this meeting especially to see Mr. Keetley's cases, having had several cases of the same sort under my care, and I feel I shall go away knowing a little more than when I entered this room. I performed a Loretta's operation on a sailor some years ago for obstruction at the pyloric end of the stomach. The obstruction was due to a blow in the stomach with a log of wood while in a gale at sea, eighteen months before admission. He vomited everything he took by the mouth and was kept alive by nutrient enemata. After the

operation he did very well for some days, but died somewhat suddenly from shock and peritonitis, due to the giving way of some of the stomach stitches. I quite think with Mr. Keetley that a plastic operation or some other operation would be better than a simple dilatation, which is only generally a temporary relief. Some weeks ago I had a man with a double stricture—one, half way down the gullet, which I thought was spasmodic, and the other was due to a pyloric growth. After performing gastrotomy, he was able to be fed by the stomach for about two weeks before he died. At the *post-mortem* I found the first stricture was due to a fusiform aneurism of the descending aorta pressing on his gullet, though he had no physical signs during life. My other case, a man about 43, extremely thin, was admitted a few days ago under my care, stating he was unable to swallow solid food. He never had syphilis, and had no enlarged glands on his body. On passing a small bougie, I went past two strictures, one opposite the cricoid cartilage, and the other about two inches from the cardiac end of the stomach. The question arises what is the cause of these strictures, and whether they are spasmodic or not, and what is the right treatment. I shall be glad of any suggestions from the members of this Society. I again congratulate Mr. Keetley on his successful case.

Mr. McAdam Eccles: I have here a case of recovery from a

Compound Depressed Fracture of the Frontal Bone and Trephining.

The boy, aged 7, on August 25, 1897, had a flint stone thrown at him, which struck his forehead on the left side, causing a compound depressed fracture. There were no loss of consciousness or signs of compression. A few hours after the parts were thoroughly cleansed and a flap turned down, which included the ragged wound in the skin. There was an extensive depressed fracture, with the bone much more broken on the inner than on the outer surface. A half-inch trephine was applied at the side, and the bone to a large degree elevated. A good deal of splintered and fouled bone had to be removed and not replaced. The jagged wound in the skin was accurately brought together, and the flap sutured in place; slight suppuration about the original wound occurred, but the flap healed by primary union. The child made a good recovery. The case shows the gap in the bone, with pulsation very plainly. This was an instance where bone could not be replaced owing to its having been fouled by the stone. In connection with this case I may allude to another of simple depressed fracture of the frontal bone.

A girl, aged 6, fell some fifteen feet on to the head, and

sustained a simple depressed fracture of the right side of the forehead and a separation of the epiphysis of the lower end of the right radius. She was unconscious, and had been very sick before admission. There was much ecchymosis of the right eyelid and some bleeding from the nose. I feared there was a fractured bone as well as a depressed fracture of the frontal bone. A semi-circular flap was turned down and a trephine applied, and the bone satisfactorily raised, and the crown of bone removed by trephine, broken up and replaced. The wound healed without suppuration, and the child made an excellent recovery. The case shows the advantage of replacing bone, as there is now no gap.

Mr. BRUCE CLARKE: I am much interested in seeing the case which Mr. Eccles has brought forward, and to hear his views on the elevation of depressed fragments and their treatment when they are presumably septic. My own experience leads me to conclude that it is possible to cleanse fragments which are septic and replace them, and with the best possible results, as is shown by a case of this nature which was under my care, and which was subsequently shown at the Clinical Society in October, 1891. The patient in question was a platelayer on the underground railway, and had been knocked down by an engine. When he was admitted into the hospital he was found to have an extensive wound of the forehead and a compound depressed fracture of the skull, extending over an area nearly two inches square. The skin and bone were begrimed with engine grease. The skin was carefully cleansed with soft soap and water and turpentine, and all the dirty-looking edges cut off; the pieces of depressed bone were picked out, cleansed in the same way, and the dirty edges pared with a sharp chisel. They were replaced *in situ*, jammed tightly together into their proper position, and the skin united. The man made an excellent recovery, and was at work again on the line within the month. A year later the skull was to all appearance as firm as if no accident had happened. On one or two occasions since I have employed a similar method, and with similar results; and I would venture to suggest that if Mr. Eccles had removed the dirty pieces of bone, cleansed and replaced them, he need not have feared subsequent sepsis.

Mr. KEETLEY: In the *Medical Press and Circular* for December 31, 1890, I published an article urging that the chisel and not the trephine is the proper instrument to use—(1) in making room for the elevation of a depressed cranial fracture; (2) in cases of compound fracture of the skull where fissures cannot be properly asepticised and cleansed without converting them into grooves by paring away one edge. The re-implan-

tation of bone does not necessarily fail even when the attempt to sterilise the wound does. I have seen every small fragment live in a case in which pus flowed from the wound; but free drainage is essential in such a case. If, from not being sure that a wound had been thoroughly cleansed, tetanus was to be feared, it would be best to immunise the patient with serum before the tetanus showed itself. Considering the circumstances of Mr. Eccles's case, the result is an excellent one.

Mr. L. A. BIDWELL: I propose to read the subsequent notes of the case of

Primary Chancre of the Cheek,

which was shown before the Society in June last and is reported on p. 199 of the WEST LONDON MEDICAL JOURNAL. The chancre was situated on the right cheek. When shown before the Society there were no other symptoms of syphilis, and several of the members were not certain of the diagnosis. In the middle of June the throat presented a typical snail-track appearance, and a week later a roseolous eruption appeared over the chest and abdomen. There was also general adenopathy. The chancre had practically disappeared by the beginning of August, and the patient has been lost sight of.

The PRESIDENT: I well remember the case being exhibited. It was regarded with interest because of the difficulty about the diagnosis. I was one of those who thought the case was not syphilitic, on account of the absence of induration, glandular trouble, resolution under anti-syphilitic treatment, and the presence of proliferating granulations of the surface. The thanks of the Society are due to Mr. Bidwell for the after-history of this patient. It would be a welcome addition to the notes of those who show cases if we were more frequently informed of the ultimate results of diagnosis and treatment.

Dr WHITFIELD: I have here a case of

Purpura.

The patient, 18 years of age, has now been ill for three weeks. Originally the rash came out on the arms and legs, but disappeared on the arms and has continued on the legs. The hæmorrhage becomes epidermic later on, and the blood clot bursts through, leaving shallow ulcers. The history of the disease is well illustrated in a spot on the left leg below the knee. The heart and kidneys are normal. There has been no malaise or joint trouble. The temperature was 99·4° at first. There has been no obvious error in diet, nor has the patient taken any drugs.

Specimens of Diseased Eye Globes.

Mr. ERNEST CLARKE: I have the honour to bring before the members of the Society four preparations of eyes in jelly. The history in brief, and the appearances presented in each case are as follows:—

(1) *Case of so-called Pseudo-Glioma.*—Patient, a boy aged 10 years, came to hospital with cataract of left eye. There was no history of injury, syphilis, or fits. No perception of light, no tension, no pain. Lens needled, and when the lens matter was absorbed the appearances were so suspicious of glioma that the eye was removed. The section through the eye shows cystic changes in the retina, which is almost entirely detached, and forming a central pillar unites anteriorly with a mass of fibrous tissue, the sequel of cyclitis. These changes had probably occurred before birth and were possibly syphilitic.

(2) *Case of Severe Cyclitis and Cataract following Injury.*—Boy, aged 12 years, received blow in right eye from snow-ball four years previously. Sight failing lately. On admission right lens opaque, slight perception of light, no tension, no pain. Lens needled, and on absorption of the soft lens matter the appearance looked so like glioma that it was thought desirable to remove the eye. Section shows well marked Y-shaped detachment of the retina, with cystic changes and hæmorrhages.

Case I.

Case II.

Case III.

(3) *Dislocation of Lens with Y-shaped Detachment of Retina.*—Man, aged 60 years. Left eye injured by blow twenty years

previously, and sight lost. On admission, cornea opaque, no anterior chamber. Lens dislocated upwards and in contact with posterior surface of cornea; increased tension, great pain. Eye removed. Section shows Y-shaped detachment of retina, with recent hæmorrhage in fork of Y. Extensive cyclitis and choroiditis.

(4) *Sequelæ of Perforating Corneal Ulcer.*—Girl, aged 8 years, brought to hospital with inflamed sightless eye. No history, but on removal of the eye the section shows that it was a case of perforating ulcer of the cornea, with escape of the lens. There is occlusion of the pupil, and the posterior capsule of the lens is adherent to the posterior surface of the cornea and margins of the iris. There has been a considerable amount of cyclitis.

Dr. F. H. Low showed a large and interesting collection of skiagraphs, chiefly illustrating the detection of foreign bodies in the tissues.

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Specimen of Ovarian Dermoid Cyst.

Dr. SEPTIMUS SUNDERLAND showed this ovarian dermoid cyst I removed a few days ago from a lady aged 34, married ten years, but childless. The cyst reached nearly to the umbilicus, and contained several pints of dark coloured fluid, a mass of putty-like material mixed with hair, and small pieces of greasy fat. Patches of pigmented skin-tissue are seen on the internal cyst wall, and a pretty specimen of a tooth growing from a part which simulates the gum. The patient had no symptoms from the tumour, and was feeling well, but wished for an examination, because six years ago she was told one of the ovaries was enlarged. She had been bicycling up to the date of examination.

HOT AIR CAUTERISATION.—Holländer, of Berlin, applies hot air at 300° C. directly to the skin, in the treatment of lupus, using a small apparatus which he can regulate at will. The effect is not mechanical, like the Paquelin, and there are no contractions in the scar. As the heat is applied the sound tissue contracts in complete ischæmia, while the lupus tissue, in which the vessels are destroyed, is unable to contract and thus receives the full effect of the heat. In the scab formation circulation is restored in the sound tissue, while the necrosed lupus tissue is thrown off. He has been successful in many old, chronic cases with patches on the face as large as a hand, and no relapses in the year since, and he recommended at the Moscow Congress this treatment in high terms, with an interesting demonstration, especially in old and extensive cases.—*Journal of the American Medical Association.*

The Mirror of Practice.

THREE CASES OF URINARY SURGERY.

By F. Swinford Edwards, F.R.C.S.

Surgeon to the West London Hospital and to St. Peter's Hospital for Urinary Diseases, and Assistant Surgeon to St. Mark's Hospital.

Case 1.—*Litholapaxy for stone in an Octogenarian, complicated with Stricture of the Urethra.*—The Rev. E., aged 80, has been dependent for many years on his catheter owing to enlarged prostate and vesical atony. Of late he has been troubled with vesical pain, increased frequency and foul urine, pointing to chronic cystitis. On sounding him a stone was detected, also a stricture about the bulbo-membranous urethra. In other respects he had enjoyed good health.

In spite of his advanced age and the existing complications, I judged it expedient to advise the removal of the stone in order, if possible, to cure the cystitis which was gradually impairing his health. Accordingly, on February 12 of this year, he was placed under gas and ether, my friends, Messrs. Keegan and Freyer, being present, and I commenced proceedings by rapidly dilating the stricture with Lister's steel bougies until I was able to pass an 18 (English gauge). A 16 lithotrite was then introduced, and a good sized phosphatic stone was seized and crushed. The enlarged prostate did not happily interfere to any great extent with the introduction of the instrument. A No. 14 evacuating canula was used for the removal of the *débris*, which weighed when dried 197 grains. The time occupied from first to last was thirty-eight minutes. There was a good deal of bleeding from the enlarged and congested prostate, so I tied in a No. 9 gum elastic English catheter and well washed out the bladder with hot lotio plumbi, half strength.

The patient stood both the anæsthetic and operation remarkably well. The same evening he had some pain, which was relieved by washing out the bladder with hyd. perchlor. 1 in 12,000, the administration of a ¼ gr. morphia suppository, and the removal of the in-lying catheter.

On the following day a Condée catheter was passed and the bladder washed out. The urine was much less foul. Temperature 99°.

He left for home on the sixth day after the operation, practically well. The urine, which he was able to draw off for himself with a No. 17 (instead of a No. 12, which he used before the operation), was acid, clear and free from odour and

pus, and his bladder pain was all but gone. His temperature never rose above 99°.

This case is of interest not only as showing that advanced age is no bar to litholapaxy, but more especially from its happy issue and rapid convalescence; for here was a case of bladder stone complicated with complete atony, cystitis, hypertrophied prostate, and last, but not least, stricture. I was certainly fortunate in being able the dilate the stricture sufficiently to admit a good sized lithotrite, but I was prepared to do an internal urethrotomy had dilatation failed.

CASE 2.—*Internal Urethrotomy in a case of Stricture attended with severe Urinary Fever.*—J. F., aged 28, was admitted into St. Peter's Hospital on April 29, 1897, for difficulty and pain on micturition, with a history of hæmaturia. He had enjoyed good health until the last three years. Had an attack of gonorrhœa six or eight years ago. His present illness commenced with pain across the loins, which became gradually worse until it was localised in the left loin. The pain is constant, but subject to exacerbations, and passes at times downwards into the groin but never into the testis. He passed blood in his urine two years ago on six different occasions, but not since. Has pain during micturition in the penis and perinæum. No increased frequency by day, but gets up once during the night.

An examination of the urine shows it to be normal with the exception of a deposit of mucus.

Abdominal examination: Complains of pain on deep pressure in the left loin, but nothing abnormal can be felt, though there is a little more resistance than on the other side. On endeavouring to sound him a stricture was discovered at $5\frac{1}{2}$ inches, which prevented the sound from passing. A No. 7 (French) elastic bougie (the largest the stricture would admit) was passed into the bladder. This was followed four hours afterwards by a severe rigor, his temperature rising to 103°. The same evening he had another rigor, with temperature of 103·4°. This fell to 102° after 20 grains of phenacetin. Early on the following morning, after passing a large amount of urine, his temperature ran up to 105°. Fifteen grains of phenacetin were given resulting in a decline of temperature to 99·6° by 11 a.m. At 11·30 he had another rigor, with increase of temperature to 103°. After another dose of phenacetin it sank on the following morning to 97·6°.

That afternoon I performed internal urethrotomy in spite of another rise of temperature, taking the usual antiseptic precautions. I tied in a No. 22 silver catheter and well washed out the bladder with sublimate solution 1 in 6,000.

On account of pain the catheter had to be removed the

same night. His temperature fell the same evening to normal, nor did it subsequently rise above 99°.

He left the hospital ten days after the operation passing a No. 20 bougie for himself. The division of the stricture had quite relieved the loin pain and had, moreover, cured him of his liability to urinary fever.

This case (one of many which have come under my notice) shows what good results may be obtained in stricture cases intolerant of instrumentation, by a prompt division of the stricture. It also shows how a urethral stricture may give rise to symptoms closely simulating those due to renal calculus, owing, I presume, to backward pressure and the resulting renal congestion.

CASE 3.—*Supra-pubic Cystotomy for Vesical Papilloma.*—W. C., a male, aged 62, was admitted to the hospital on April 19 of this year with the following symptoms:—

About seven years ago he first noticed blood in his urine, which was passed without pain. The blood was dark and intimately mixed with the urine. Now and then clots were passed. After a time all bleeding ceased for six months, and then recurred in larger quantities and at more frequent intervals. Last February it became very troublesome and he began to suffer pain across the loins after micturition. He began to lose strength and had difficulty in rising from the sitting posture. Micturition became more frequent.

The last attack was a month ago, when he noticed that the first part of the urine passed was clear and free from blood. Towards the finish almost pure blood was passed. Has noticed at times a sudden stoppage in the flow.

A cystoscopic examination revealed that which we had diagnosed, viz., a small papilloma, which was pedunculated and situated near the neck on the left side.

The urine was acid. Sp. gr. 1010, no albumen. On April 21 supra-pubic cystotomy was performed, and the growth removed with scissors curved on the flat to a right angle through a Caisson tube, which was illumined by means of an electric search-light fitted on a spectacle frame. This is by far the best method with which I am acquainted for the inspection and treatment of lesions situated in the deeper part of the bladder.

Pressure for a few minutes with a swab of perchloride of iron sufficed to stop all hæmorrhage. A double drainage tube, made by sewing two Jacques' catheters back to back, was then inserted through the Caisson tube and the latter withdrawn. The vesical wound was partly closed with two silk sutures, and the abdominal wound, in its upper part, by a couple of silkworm gut sutures. The papilloma was about the size of a filbert, with a short pedicle.

The drainage tube was removed on the third day. A week after the operation urine passed for the first time per urethram, and within eight days from this time it all came the natural way.

He left the hospital well on May 12, exactly three weeks after the operation. The highest temperature recorded was 99·2°.

I think no one will deny that this operation is a most successful one in cases of simple papilloma, and affords means for a radical cure. Unfortunately one now and then meets with cases of sessile papillomata with a more or less indurated base, indicating that ingrowth as well as outgrowth is taking place, or in other words, that the tumour is malignant at its base. The cystoscope will give us no information on this point in the early stages, and we only learn the true state of affairs when operating. It is therefore highly important when removing the growth to examine its base carefully with the finger, for if indurated we must not rest content with simply removing the villous outgrowth, and our prognosis will have to be a guarded one.

A CASE OF CEREBRAL HÆMORRHAGE IN A CHILD AGED 13.

By Maitland Thompson, M.R.C.S., L.R.C.P.

I saw W. J., a schoolboy aged 13, for the first time on March 13, 1897. He complained of slight headache and some intolerance of light. There was no pain anywhere; he was rational and answered questions put to him quite freely. The pulse was 80 and regular; the heart and lungs were normal; the tongue was slightly coated. The temperature was 101° F. The history was that he had been kept in one room for a week previously, owing to a slight attack of varicella, and examination of the chest disclosed the fading eruption in the form of some dry scabs. During the period in question his general health had been good. Previously to my visit on the day above mentioned he had complained of headache and had vomited. He had always been a strong and healthy boy. The family history was good. An hour after seeing him I was again summoned to the patient. I found him unconscious, with corneal reflexes abolished. The right pupil was widely dilated; the left contracted; and neither acted to light. There was no deviation of either eyeball. The breathing was much oppressed, blood-stained froth was issuing from the mouth; the pulse could not be felt at the wrist. I could not hear the

heart sound owing to the noise in the throat. The temperature was 98° F. The legs were in the extended position; the feet felt warm. There was slight opisthotonos, the head was drawn to the right; the muscles of the neck were rigid. After clearing the throat and packing the head in ice the breathing improved. Convulsions and clonic spasms set in affecting the arms and face. The pupils became equal and acted to light. I tried to obtain a view of the fundus but failed.

Spasms of the upper extremity continued at less frequent intervals. Exhaustion subsequently became more marked and the temperature rose to 101° F. Forty grains of hydrate of chloral and forty grains of bromide of potassium were administered by the rectum. Lastly, the breathing became more embarrassed, the Cheyne-Stokes rhythm developed, the contractions of the arms and muscles of the face less pronounced. Blood-stained froth again began to issue from the mouth and nose, and at 6.30 a.m. on the following day, that is, ten and a half hours after the seizure, the patient, who never regained consciousness, peacefully died. There had never been any discharge from either ear.

The *post-mortem* examination was made with the assistance of the house surgeon of the West Herts Infirmary. On removing the skull cap the vessels of the dura mater and pia mater were found much congested. The right lateral ventricle was full of blood clot, while the other ventricles also contained blood-stained fluid. The brain substance was ploughed up in the neighbourhood of the temporo-sphenoidal lobe, the blood having probably come from the lenticular striate branch of the middle cerebral artery. All the other organs were healthy, neither the arteries, kidneys nor heart showing anything noticeable.

CASES OF CATARACT EXTRACTION IN OLD PEOPLE.

By Percy Dunn, F.R.C.S.

Ophthalmic Surgeon to the West London Hospital.

Two recent cases of cataract extraction which I have done in old people above 70 years of age, although quite uneventful, and for that reason perhaps commonplace, may yet usefully serve as a text upon which to append a few remarks.

Case 1.—Mr. C., aged 75, had been blind in his left eye for four years. Two years ago he was taken to an ophthalmic surgeon with a view to treatment, but for some reason the latter refused to operate. On October 11, 1897, I was asked

by Mr. Charles Andrews to see the patient. I found a fully matured cataract in the left eye, and an advanced cataract in the right. There was good perception of light in each eye. The question to be decided was whether the patient was in a fit state of health to undergo an extraction. In the opinion of Mr. Andrews his health was quite satisfactory, and with this view I concurred, especially since ten days before the old gentleman had fallen against a window, thrust his arm through a pane of glass, and followed this achievement by rolling down a steep flight of stairs—entirely without perceptible damage to himself. If he were able to pass through an ordeal of this nature without being any the worse, it was to be presumed that a slight operation would cause him no concern.

On October 17, under cocaine, I made a sclero-corneal section in the left eye, and after an upward iridectomy extracted the lens, which readily came away in its capsule. There was no loss of vitreous. The patient made an uninterrupted recovery. On November 28, six weeks after the operation, he read J. 1 with + 14. With + 11 he expressed himself as "seeing everything" at a distance; but as I had to visit him at his own home, and had not the distant types with me, I am not able to give the full measure of his distant vision.

CASE 2.—Eliz. B., aged 78, was admitted under my care into the West London Hospital on April 19, 1897. She was a healthy, spare old patient, with a mature cataract in the right eye, and a less advanced one in the left. In the right there was good perception of light, in the left she could barely count fingers.

On the 21st, under cocaine, a sclero-corneal section was made, followed by an upward iridectomy, and the lens extracted. No loss of vitreous. The patient made a rapid recovery and was discharged on the 28th. About six weeks later her vision was as follows: with + 10 = $\frac{6}{6}$, with + 12 she read J. 1.

Age is nowadays no bar to an extraction operation provided that the old patient be in a good state of health; indeed my experience of operating upon old people is that the eye in old age is very tolerant of surgical interference. Perhaps this may be due to the general lowering of vitality, and to the tissues having less energy and keenness, so to speak, to spite the surgeon by an unkind exhibition of resentment. But however this may be, there is one essential detail to be borne in mind in connection with these cases, and that is the older the patient the more important does it become in the after treatment to interrupt as little as possible the ordinary tenour of his or her daily life. To confine an old patient, for

example, to a dark room with a bandage over both eyes, and compel him to endure this ordeal for several days after an extraction, is to do nothing less than perpetrate an odious superstition which as likely as not will terminate disastrously. Neither a dark room nor covering up more than one eye—the one operated upon—are necessary. It is my usual custom to leave the non-operated eye always uncovered, and not to reduce the ordinary light in the room in which the patient is lying, the only requisite being that the patient shall not face the light. By this means the restraint of the after treatment, which is apt to tell heavily upon old persons, is reduced to a minimum, without causing any harm to the organ operated upon, and with positive good to the patient.

The next point to which I may allude is that with reference to the antiseptic and aseptic precautions necessary to be observed in extraction operations. My own plan is as follows. On the evening before the day of operation the patient's face is thoroughly washed with soap and hot water, and afterwards a cyanide gauze dressing is applied to the organ to be operated upon, and kept in position by a turn or two of a bandage. On the following morning some fresh dressing is applied and is left undisturbed until the time comes for instilling the cocaine. Freshly prepared 4 per cent. cocaine solution, made up with a solution of perchloride of mercury 1 in 5,000 is used, and is instilled into each eye. When the eye is ready for operation the conjunctival sac and surrounding tissues are thoroughly douched with 1 in 2,000 of Chinosol solution. The instruments, instead of being boiled are placed for ten minutes or more in pure carbolic acid. After having been assured some time ago by my friend and colleague, Mr. Lenthal Cheatle, that this precaution would be absolutely sufficient to sterilise them, I have adopted this plan in preference to the more cumbersome method of sterilising the delicate instruments in the ordinary way by heat. To this method, however, I make one exception, and that is in the case of the knife. Its keen edge would be quickly dulled were it to be placed in pure carbolic. The knife, therefore, a necessarily clean instrument, is put into 1 in 20 carbolic and allowed to remain there for ten minutes or more until it is required. From the pure carbolic the instruments are removed into a tray of 1 in 20 carbolic, or 1 in 2,000 Chinosol solution, care being taken to thoroughly wash off all the pure acid from the instruments. This detail the surgeon should not omit to attend to himself. During the operation the conjunctival sac is douched from time to time with the Chinosol solution, and a final wash out of the sac is resorted to previously to closing the lids after the extraction is effected. Iodoform ointment is then smeared along the

ciliary margins of the lids and a light compress of iodoform or cyanide gauze is placed over the eye and secured with the turn of a bandage, the fellow eye, as before remarked, being left uncovered.

But while too much care and circumspection cannot be exercised in providing against septic infection of the wound, it is also equally true that the best policy to pursue is that of reducing the after treatment of cataract to its simplest terms, consistent with expediency. In this matter the American ophthalmic surgeons are far ahead of us. With some the patient is allowed to sit up in a chair directly after the operation, and the operated eye is only covered with a thin layer of dressing secured with a narrow strip of adhesive plaster. The intention of the American operator is to make light of the operation, believing that it is best for the patient in a general sense, and claiming that just as good results can be obtained by following this plan as when more elaborate precautions are adopted.

Reviews and Notices of Books.

RINGER'S HANDBOOK.[1]

RINGER'S Therapeutics has long been a favourite book of reference with practitioners, and very justly so, for few books contain more useful and varied information on all points relating to the selection and employment of remedies in the treatment of disease. When Dr. Ringer's book first appeared, many years ago, it marked a new era. Previous books of this kind were mainly works on materia medica, devoting much space to the description of drugs and their combinations, as well as to their physical and chemical properties, and dealing very cursorily with their work of employment in disease. Ringer's was the first book in the English language which dealt comprehensively with the employment of remedies in disease, basing their indication or contra-indication on clinical considerations alone. Each successive edition has kept pace with the advances of the science of therapeutics, and the fact that the thirteenth edition has now been reached is a proof that the excellence of the work has been generally appreciated.

[1] "A Handbook of Therapeutics," by Sydney Ringer, M.D., F.R.S., and Harrington Sainsbury, M.D., F.R.C.P. Thirteenth Edition. London: H. K. Lewis, 1897.

A considerable time has elapsed since the last edition, and consequently a good many new drugs and methods of treatment find a place in the present edition. Possibly some persons, who habitually pin their faith to the very last new drug, whether made in Germany or otherwise, may feel disappointed at the scanty reference to, or perhaps the complete omission of, such new drug, but the authors have, in our opinion, acted wisely in restricting themselves to such remedies as have had a sufficient trial to justify their place in a book on practical therapeutics. No drug or remedial agent of proved usefulness has been omitted in the present edition. There is a brief but sufficient reference to the Nauheim-Schott treatment, and a separate chapter has been introduced on serum therapeutics.

Of course the new features of the work are essential to its utility and possess much interest, but we think the real value of the work lies in the older parts. In the chapters on aconite, belladonna, arsenic, and other old and trusted remedies, the practitioner will find endless hints and practical suggestions, all based on clinical experiences. The introductory chapters on the tongue, the pulse, the skin, the temperature, &c., contain much that is of genuine practical interest to every practitioner.

WALSH ON RÖNTGEN RAYS IN MEDICAL WORK.[1]

It is just two years since Professor Röntgen gave to the world his discovery of the *x*-rays; and the rapidity with which any new fact is at the present time applied to practical purposes cannot be better exemplified than the use these rays have been put to in medical, and particularly surgical, work.

The variety of ways in which this new form of radiation is of assistance to the medical practitioner, the veterinary surgeon, the analyst, and the jurist is every day increasing, and therefore the value of the work which is under review is great, for it seeks in a brief and concise way to bring together and ascertain facts as they are known up to the present time.

This clearly will afford a basis for further advance in work with the Röntgen rays.

The book is divided into two parts; the first—which is a brief outline of the electrical apparatus and technical knowledge needed to obtain satisfactory results—has been very happily introduced, and is very ably handled by Mr. J. E. Greenhill.

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[1] "The Röntgen Rays in Medical Work," by David Walsh, M.D. London: Baillière, Tindall and Cox, 1897.

In the second part of the work the author has dealt with the subject of the practical uses of the *x*-rays under eight headings, surgery standing first on the list.

A very interesting account of the method of localising metallic foreign bodies within the cranium is given.

Foreign bodies may be seen, in the reproductions of skiagraphs given in the book, lodged in very many parts of the body, the brain, the neck, the thorax, the eye, &c. In case of a fractured patella the author says that a skiagraph will reveal whether the fracture is complete or incomplete, and otherwise help in a difficult case; but surely the fact of the thick bony tissue of the femur and tibia behind will seriously militate against a useful reproduction of the state of the facts by the *x*-rays? Perhaps one of the best skiagraphs in the whole book is fig. 51A, showing a normal foot bent downwards; the physiological and anatomical value of the view obtained is very great.

Dr. Walsh's method of mapping out skin surfaces by means of rubbing in oxide of bismuth before exposure to the rays has given a very beautiful reproduction on the frontispiece. This reveals the skin creases and furrows very accurately. In conclusion, the work is a collection of most valuable facts and illustrations, and cannot fail to excite interest in, and increase the usefulness of, the Röntgen rays as applied to medical science.

ANDERSON ON MEDICAL NURSING.[1]

THE fact that this work has reached a third edition speaks much in its praise. It is an admirable collection of practical notes on physiology and medicine to the extent that these subjects are required to be known by nurses.

Necessarily, in the brief way in which some facts have been recorded, some obscurity has arisen, and we would venture to suggest that several of the anatomical details might with advantage be expressed otherwise. For instance, on page 54 we are told that the opening of the inferior vena cava into the right *ventricle* is guarded by *valves* called the "Eustachian valves;" and again, on page 55 it is said that the *cavities* of the heart are of *various* sizes; and further, on page 75, no mention is made of the distinction between the two layers of the pleura, or of the pleural cavity.

In the directions for the treatment of suffocation the reader

[1] "Notes on Medical Nursing," by the late James Anderson, M.D. Third edition, edited by Ethel F. Lamport. London: H. K. Lewis, 1897.

is told to draw the tongue forward and to see that it remains in that position, but no method of bringing this about is given.

The treatment of thread worms in children is stated to be the injection of about two pints of warm water and salt—a somewhat large amount for so small a capacity as the large intestine of a child possesses.

The chapter on "Temperature" is particularly good, and except for the few errors printed and some minor points, we can thoroughly recommend the book.

DÜHRSSEN ON OBSTETRIC PRACTICE.[1]

THE author of this little book of 300 pages is well known in this country in connection with his method of plugging the uterus in cases of severe *post-partum* hæmorrhage, and with the operation of colpotomy. His book has been designed to fulfil two purposes: "First as a guide to students in midwifery practice, and secondly as a compressed reference book for the practitioner."

That the work has fully attained its objects in Germany is amply shown by the fact that it has been through six editions in as many years. We understand that it is largely used in that country by senior students reading for their final examination in midwifery, and that it is also very popular with practitioners. The translation is very readable and the type is good, but there is a great dearth of illustrations. The translators state their belief that an English edition of the work will be "acceptable to English students and practitioners." This opinion, however, we are inclined to doubt. From a careful perusal of the book it is very evident that examiners in midwifery in this country expect a much more thorough knowledge of the theoretical part of the subject than is the case in Germany. No student could hope to pass any of our examinations if he used this little volume as his text book. The author aims at being essentially practical. But we have no lack of clear practical instruction in books on obstetrics written by British authors. At the present time a book on the purely practical part of obstetrics by an English author is largely read in this country. It is no larger, and to our mind much more helpful to British practitioners than the one under review would possibly prove to be.

[1] "A Manual of Obstetric Practice for Students and Practitioners," by Professor A. Dührssen, M.D., late first Assistant in the Obstetric Clinic of the Charité Hospital in Berlin; translated and edited from the sixth emended and enlarged edition by John W. Taylor, F.R.C.S., Surgeon to the Women's Hospital, Birmingham, and Frederick Edge, M.D., F.R.C.S., Surgeon to the Women's Hospital, Wolverhampton.

It is interesting to see where English opinion differs from German on obstetrical matters. The author holds that menstruation is due to ovulation; that the ovum may be fertilised in the Graafian follicle before its escape from the ovary; that the occurrence of ovarian pregnancy has been demonstrated; and that a dead ovum may be retained in the uterus for years. These views are not held by the great majority of obstetricians.

We think also that many in this country would hesitate to accept the statement that in most cases eclampsia is a "uræmia" due to "the retention in the blood of kreatin, kreatinin, acid phosphate of potash and other urinary salts."

Again, the terms "true" and "false" corpus luteum used by the author have been discarded in this country.

Incision of the os uteri is strongly recommended where rapid delivery is desirable; also incision of the lower part of the vagina and perinæum where there is difficulty at the pelvic outlet, but the author is careful to add in a foot-note that "he is convinced" that it is "the duty of the general practitioner to call in the help of a specialist in such difficult cases." The methods of rotating the occiput forwards in unreduced occipito-posterior cases, as taught in this country and which we have generally found simple and successful, are not described but are stated to be "obselete."

No mention is made of the so-called "Prague method" of delivering the after-coming head, but the value of suprapubic pressure in these cases is rightly insisted upon. The whole subject of hydramnios is treated of in a foot-note of two lines and a half.

Great stress is laid on the author's method of tamponading the uterus in severe cases of post-partum hæmorrhage, and the operation is described in detail. No reference is, however, made to the excellent method of bimanual compression of the uterus under such circumstances practised in this country, which needs no instruments, is easily performed, and gives good results. The author recommends "lysol" as the antiseptic for midwifery work. Short and excellent instructions are given as to the use of the catheter. A just and valuable note of warning is sounded against the too frequent use of the forceps. A passing mention is made of axis traction forceps, but as the author sees no advantage in their use no description of them is given.

It is interesting to note that there is no description of the operation of symphysiotomy, which was so warmly taken up by Italian, French and many German obstetricians, but which has never been popular in this country. Under the heading of asphyxia neonatorum Schultze's method of artificial respiration is the only one mentioned.

We are glad to acknowledge the advancement in the science and art of obstetrics derived from foreign sources, but we cannot help feeling (though we may be mistaken) that English practitioners will probably prefer to consult some one of the British authors who describes the operations and instruments in use in this country, rather than the work of a foreign author, in which only foreign methods and instruments are referred to and discussed.

SYMONS ECCLES ON MASSAGE.[1]

THE demand for a second edition of Dr. Symons Eccles' book on Massage within a period of two years after the issue of the first edition, clearly proves that the work has supplied a want. That this should be the case is not surprising, inasmuch as Dr. Eccles has very happily succeeded in producing a scientific, though at the same time essentially practical, treatise upon the subject. The chief improvement noticeable in the new edition is the expansion of the clinical records, showing, under the various diseases, how potent for good massage can be made to become.

These records are not only interesting in themselves, but they are instructive as indicating the precise, painstaking methods adopted by the author in his practice of checking and proving the physiological results of his treatment. Dr. Eccles has attained the position of being one of the first authorities on massage in this country, and his book clearly shows that he is justly entitled to the distinction. A word of praise is due to the new publishers for the attractive form in which they have produced the work.

STEPHEN PAGET ON JOHN HUNTER.[2]

THIS book has already gained much praise from the lay and medical press, and we feel that it has only received the applause that it merits.

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[1] "The Practice of Massage: its Physiological Effects and Theurapeutic Uses," by A. Symons Eccles, M.B., Member Royal College of Surgeons, England; Fellow Royal Medical and Chirurgical Society, and Medical Society of London; late President to the West London Medico-Chirurgical Society; Member Neurological Society of London, &c. Second Edition. London: Baillière, Tindall, & Cox, 20 and 21, King William Street, Strand, 1898.

[2] "John Hunter, Man of Science and Surgeon" (1728-1793). By Stephen Paget, with introduction by Sir James Paget. London: T. Fisher Unwin, Paternoster Square, 1897.

Mr. Stephen Paget wields a versatile pen, and can with equal facility write well upon biographical matters as well as upon more technical topics. There can be no doubt that by doing so he gives constant thoughtful pleasure to the public on the one hand, and his professional *confrères* on the other.

The scope and intention of this work have been to show in a simple, clear and easy style, a superficial view of John Hunter and his work; this has been done in such a manner as to interest all readers.

In these pages those who read may see and appreciate Hunter's hatred of empiricism, his energy as an observer, and his enthusiasm as a teacher; this is all as clear and as plain as Mr. Paget intended it should be.

We see the man as he passed his time from day to day in his life of incessant labour.

The initiated readers must infer for themselves the contrast that existed between the surgery of the pre-Hunterian era and the transformed science that immediately arose out of the methods, influence and actual teaching of John Hunter, for Mr. Paget does not in his quotations attempt to show the true greatness of the man; he is content to tickle the uninitiated rather than instruct them. We are sorry for this, but we cannot blame Mr. Paget, for his work is to serve many masters; although he himself knows John Hunter was an intellectual giant, his hands were too tightly bound by the limits of the book to enable him to fully demonstrate this fact.

However, there is one quotation made on p. 107 that does show the greatness of his hero, although it must be allowed it was not introduced for that purpose. We must apologise for its length, but as we cannot help thinking its true import has been misconstrued by the writer, its entire translation, and our construction of it, is at least excusable. Hunter's words are as follows:—"The remote cause of absorption of whole and living parts implies the existence of two conditions, the first of which is a consciousness, in the parts to be absorbed, of the unfitness or impossibility of remaining under such circumstances, whatever they may be, and therefore become ready for removal, and submit to it with ease. The second is a consciousness, of the absorbents, of such a state of the parts. Both these concurring, they have nothing to do but to fall to work. Now the part that is to be absorbed is alive, it must feel its own inefficacy and admit of absorption. The vessels must have the stimulus of imperfection of this part, as if they were sensible that this part were unfit, and therefore take it up. There must be a sensation in both parts. When the part to be absorbed is a dead part, then the whole disposition is in the absorbents." We do not look upon this

quotation as only metaphorical, nor as a curious abuse of words, as the author suggests.

To our minds Hunter did not here mean to speak metaphorically; in fact this very passage could adequately act as an example of the profundity of Hunter's philosophy, and the insight and foresight of his perception. The entire quotation crystallises the whole message of Metchnikoff of our own time, and there could not be a more specific statement made by any modern teacher when dealing with the same subject. The observation is a classical one and shows that Hunter, with the comparatively limited means at his disposal, was able to foreshadow some of the most far-reaching results of the most modern of our own scientific investigations.

If a man can make an observation in 1783, and its purport in 1897 still forms the chief subject of investigation, he must have been a profound thinker. A beautiful introduction by Sir James Paget adds to the charm of the book.

THE LIBRARY REPORT.

THE Honorary Librarian will be glad to receive copies of new books for the Library either from authors or their publishers. Reviews of works thus sent will be published in the JOURNAL.

He acknowledges with thanks a large package of books from Mr. A. P. Woodforde, of Goldhawk Road, W.

The Members of the Society are reminded that the Book Club in connection with Lewis's Library continues. Annual subscription, 11s. 6d.

BOOKS RECEIVED.

From the PUBLISHERS.

Ambroise Paré and his Times (1510-1590), by Stephen Paget. Illustrated. G. P. Putnam's Sons, New York and London: The Knickerbocker Press, 1897.

The Röntgen Rays in Medical Work, by David Walsh, M.D. Edin., with an Introductory Section upon Electrical Apparatus and Methods, by J. E. Greenhill. London: Baillière, Tindall and Cox, 1897.

Convergent Strabismus and its Treatment; an Essay, by Edwin Holthouse, M.A., F.R.C.S. London: J. and A. Churchill, 1897.

The Practice of Massage, by A. Symons Eccles, M.B. Second Edition, London: Baillière, Tindall and Cox, 1898.

A Manual of Obstetric Practice for Students and Practitioners, by Professor A. Dührssen, M.D. Translated and edited from the sixth emended and enlarged edition by John W. Taylor, F.R.C.S., and Frederick Edge, M.D., F.R.C.S., with illustrations. London: H. K. Lewis, 1897.

A Handbook of Therapeutics, by Sydney Ringer, M.D., F.R.S., and Harrington Sainsbury, M.D., F.R.C.P. Thirteenth Edition, thoroughly revised. London: H. K. Lewis, 1898.

John Hunter, Man of Science and Surgeon (1728-1793), by Stephen Paget, with introduction by Sir James Paget. London: T. Fisher Unwin, 1897.

A Practical Text-Book of the Diseases of Women, by Arthur H. N. Lewers, M.D. Fifth Edition, with 174 illustrations, four coloured plates, and 71 illustrative cases. London: H. K. Lewis, 1897.

Ringworm and Alopecia Areata; their Pathology, Diagnosis, and Treatment, by H. Aldersmith, M.B.Lond., F.R.C.S. London: H. K. Lewis, 1897.

The Earliest Recorded Discovery of Thermal Springs, by Prosser James, M.D. (Pamphlet). London: John Bale, Sons, and Danielsson (Limited), 1897.

POST-GRADUATE TUITION IN LONDON.

By C. B. KEETLEY.

WE attempt to give in each number of this JOURNAL a full notice of the arrangements for post-graduate study in London, up to date. Strict impartiality has been aimed at, and it is hoped that the secretaries and deans of hospitals and schools will supply us with the necessary information. The well-known "London Post-Graduate Course" is directed by a committee (President, Mr. Jonathan Hutchinson), and it combines four hospitals, viz.: the Skin, Blackfriars; Bethlem; and the London Throat, Great Portland Street; with King's College Bacteriological Laboratory; the Parkes Museum of Hygiene, the Cleveland Street Infirmary and the British Institute of Preventive Medicine. The next courses will commence in January. Courses can be taken out separately, and the fees are £1 1s. or £2 2s. at each institution, according to the number of lectures, &c. This does not include hospital practice, for which are charged fees extra, but moderate. The prospectus for 1898 may be obtained of Dr. Little, 32, Harley Street, W.

Charing Cross Hospital.—Weekly lectures or demonstrations are given, arranged in three courses of ten each, two courses in the winter and one in the summer. Registered medical practitioners not requiring a certificate of attendance are admitted without fee to the practice of the hospital. The next course begins on Thursday, January 13. Fee £1 1s. each course. Thursday at 4 p.m. Beds, 180; in-patients about 2,000. Hon. Secretary, Dr. Willcocks.

West London Hospital.—Weekly demonstrations, arranged in three courses of ten lectures each. Wednesdays at 5 p.m., commencing the third Wednesdays in January, May and October. Fee £1 1s. each course. Fees for hospital practice, £2 2s. per quarter extra, or £5 5s. for year, including all lectures and demonstrations. Registered medical practitioners not requiring a certificate of attendance are admitted without fee to the practice of the hospital. Instruction in anæsthetics by the anæsthetists. Hours of visiting and operation, 2 to 5 daily. Beds 101; in-patients, 1,713. When the new wing, recently finished, is opened, the hospital will contain 173 beds. Clinical assistancies. Special departments for diseases of women, eye, ear, throat and nose, skin and for orthopædics.

Attendance at the Hospital practice during fifth year recognised by the Conjoint Boards of the College of Surgeons of England and Edinburgh, and by the Society of Apothecaries.

Hon. Secretary, Mr. Bidwell. Prospectus on application. (See advertisement.)

The Victoria Hospital for Children.—The Medical and Surgical Staff propose giving a course of lectures upon "The Diseases of Children." The lectures will be delivered in the Board Room of the Hospital every Thursday afternoon at four o'clock, and each will be followed by a demonstration of cases. Practitioners and students of medicine are invited to attend. Syllabus to be obtained from Mr. D'Arcy Power, 10A, Chandos Street, Cavendish Square, W.

Hospital for Consumption, Brompton.—Course of lectures and demonstrations. Wednesday at 4 p.m. Clinical assistancies (out-patient), attendance in each twice a week, at 12 p.m. Clinical clerks (in-patient), twice a week, 10 a.m. to 12.30 p.m., and attendance afternoon of their physicians, three or six months. Fees, inclusive, £1 1s. one month; £2 2s. three months; £5 5s. perpetual. Beds, 321; in-patients, 1,774. For forms, &c., apply to Secretary, Mr. W. H. Theobald.

St. Peter's Hospital for Stone and Urinary Diseases, &c.—Clinical instruction in the wards daily. Out-patients, Monday, Tuesday, Thursday, Friday, 2 p.m.; Saturday, 4 p.m.; also Monday and Wednesday, 5 p.m. Consultations and

operations, Wednesday and Friday, 2 p.m. Beds, 26. Free. Secretary, Mr. Irwin H. Beattie. (See advertisement.)

St. John's Hospital for Diseases of Skin, Leicester Square.—Clinical demonstrations on cases presenting themselves in the Out-patient Department, are given during the week. Lectures, Wednesday and Thursday, at 5 p.m. Fees, complete, £2 2s.; on Wednesday or Thursday, separately, £1 1s. For complete syllabus see advertisement. Beds, 50.

Royal Ophthalmic Hospital, Moorfields.—In "London Post-Graduate Course." Monday at 1 p.m., Wednesday at 8 p.m. Fee £2 2s.; fees for practice, perpetual, £5 5s.; six months, £3 3s.; only members of the "London Post-Graduate Course" may join practice for one month, for £1 1s. Clinical assistancies. Clinical work begins at 9 a.m. Operations daily 10 to 1 p.m. Ophthalmoscopic class, Monday, Tuesday, Thursday, 7.30 p.m. Beds, 100; in-patients, 2,184. Secretary, Mr. Robert J. Newstead.

Hospital for Diseases of Skin, Blackfriars.—In "London Post-Graduate Course." Next term, eight lectures. Wednesdays, 4 p.m.

London Throat Hospital, Great Portland Street, W.—Monday, 8 p.m., £1 1s.; hospital practice, one month, £1 1s.; three months, £2 2s.; perpetual, £5 5s.

Parkes Museum (of Hygiene), 74A, Margaret Street, W.—A course if sufficient entries received, £1 1s.

Central London Sick Asylum, Cleveland Street, W.—Thursday 5.30, "London Post-Graduate Course" lectures, £1 1s.

Throat Hospital, Golden Square.—Lectures and demonstrations "in the winter season." Fee, £2 2s. per course. Dates in medical journals. Fees for practice (including lectures), £3 3s. per quarter; £5 5s. per half year. Clinical assistancies, senior and junior. Attendance at 2.30 p.m.; Tuesday and Friday also at 6.30 p.m. Beds, 28.

There are a few other special hospitals at which special courses are arranged for graduates. All which have the kindness to supply us with particulars will, in future numbers, receive a fair and careful notice.

British Institute of Preventive Medicine.—Laboratories open from 10 a.m. to 6 p.m. Instruction in bacteriology, bacteriological chemistry and in practical photomicrography. Fee, full month's course, including re-agents, &c., £5 5s. Also, in connection with "London Post-Graduate Course," every Thursday at 3.30 during summer, urinary chemistry and bacteriology, £2 2s. Open for original research. Apply to Dr. Macfadyen, 101, Great Russell Street, W.C.

Mr. Hutchinson gives clinical demonstrations at his museum, Park Crescent, Wednesday afternoons, at 4. Free.

All the great hospitals to which schools are attached are

glad to receive visits from graduates, but the latter have necessarily, except at isolated visits, to give way to the regular students and undergraduates. The days and hours of attendance and of the principal operating days are given in the weekly journals.

The museum and library of the Royal College of Surgeons are open daily, and access is readily obtained to them by British, American and foreign graduates and diplomats: Secretary, Mr. Trimmer; Librarian, Mr. Bailey. Special permission is required to visit the museum on Friday and Saturday. Library hours 11 a.m. to 7 p.m. (to 1 p.m. on Saturdays). Museum hours 11 a.m. to 4 p.m. till February 28 (to 5 p.m., March 1 to August 21).

LIST OF NEW MEMBERS ELECTED DURING THE PAST QUARTER.

(1) L. REMFRY, M.D. (Cantab.), 60, Great Cumberland Place, W.
(2) LEONARD BULKELEY WILLIAMS, M.B., C.M. (Glasgow), 8, York Street, Portman Square, W.
(3) HORACE MARSHALL ABEL, M.R.C.S., L.R.C.P., Cecil House, Somerset Street, Savoy, W.C.
(4) HORACE STANSFIELD COLLIER, F.R.C.S. (Eng.), 33, Westbourne Terrace, W.
(5) WILFRID J. HARRIS, M.B. (Cantab.), M.R.C.P., Craven Terrace, W.
(6) V. WARREN LOW, F.R.C.S. (Eng.), Children's Hospital, Great Ormond Street.
(7) Surgeon-Major REILLY, I.M.S., L.R.C.P., L.R.C.S. (Edin.), 2, Powis Square, W.
(8) H. CAMPBELL THOMSON, M.D.Lond., M.R.C.P., 34, Queen Anne Street, W.
(9) H. TEMPLE MURSELL, M.B., F.R.C.S. (Edin.), 10, Bentinck Street, W.
(10) A. G. GRANVILLE, M.R.C.S., L.R.C.P., West London Hospital.
(11) CHARLES RYALL, F.R.C.S. (Eng.), 9, Bentinck Street, W.
(12) W. B. PATERSON, F.R.C.S. (Eng.), 64, Brook Street, W.
(13) HENRY DUTCH, M.D. (Brux.), L.R.C.P.Lond., 26, Berkeley Square, W.
(14) V. PENDRED, M.D. (Durham), F.R.C.S., 2, The Grove, Hammersmith, W.
(15) S. DAWSON, F.R.C.S. (Ireland), 88, Warwick Road, Earl's Court, S.W.
(16) JOHN DELAHUNT, L.R.C.S., L.R.C.P. (Edin.), 2, Sherbrooke Road, Fulham, S.W.
(17) DAVID ARTHUR, M.D. (Glasgow), D.P.H. Cantab., 276, Uxbridge Road, W.
(18) JAMES ALLAN, M.B., C.M.Edin., Springwell, Barnes.
(19) ROBERT NAPIER DANIEL, M.R.C.S., L.R.C.P.Lond., 13, Nevern Square, S. Kensington.
(20) R. J. MAITLAND COFFIN, F.R.C.P.Edin., 3, Westgate Terrace, Redcliffe Square, S.W.
(21) PERCIVAL HORTON-SMITH, M.D.Cantab., 15, Upper Brook Street, W.
(22) L. WOOD BATHURST, M.D.Lond., 35, Colville Terrace, W.
(23) WALTER ALLINGHAM, M.R.C.S., L.R.C.P.Lond., Victoria Hospital, Chelsea.

(24) H. W. ARMSTEAD, M.D.Lond., 51 Chepstow Villas, Bayswater, W.
(25) B. H. KINGSFORD, M.B.Lond., Maybury Road, Woking.
(26) J. K. WATSON, M.D.Edin., Lorna Cottage, Byfleet, Surrey.
(27) A. C. E. TWYNAM, M.R.C.S., L.R.C.P.Lond., Auriol Road, West Kensington.
(28) F. D. PITT, L.R.C.P.Edin., Wolverton, High Road, Chiswick.
(29) OSWALD BAKER, L.R.C.P., L.R.C.S.Edin., 57, Welbeck Street, W.
(30) W. M. TOWNSEND, L.S.A., Queen Street, Hammersmith.

NOTES ON NEW PREPARATIONS, &c.

"Hypodermules"—Rogers.—We have had sent to us a new suggestion for hypodermic medication, designed and introduced by Mr. Frank A. Rogers. Any method which tends to render this form of treatment more secure against unpleasant results from sepsis, inaccurate dosage, &c., should always be greeted with the appreciation which it merits.

FIG. 1.—Hypodermules.

A "hypodermule" consists of a small glass phial with a very narrow neck, as seen in the illustration. This is made capable of holding the exact dose for each hypodermic injection. When sterilised the flask receives an accurately determined amount of one of the several hypodermic solutions in use, this fluid also being absolutely free from micro-organisms. The end of the neck is then closed in a flame.

We can scarcely conceive of a more thorough process of sterilisation; and what is equally important, this method ensures continuous sterility until the time comes for the drug to be injected.

The hypodermic syringe and needle, the patient's skin, and the surgeon's hands being properly cleansed, all that is needed is to break off the narrow neck of the hypodermule (and this is accomplished most readily and satisfactorily by the small metal cylinder provided with the tubes), and to draw up the precise dose, and pass it into the tissues.

It will thus be seen that this method combines the obviously important and necessary advantages (among others) of perfect

sterility, complete accuracy of dosage, prevention of all concentration or chemical alteration by exposure to the air, and a ready-dissolved drug.

FIG. 2.—Metal cylinder for breaking off neck of hypodermule.

FIG. 3.—Position of hypodermule when drawing up dose.

It appears to be an ideal method for the preservation and distribution of animal serums and antitoxines, and also for the preservation of ophthalmic solutions.

Dr. Renner's Vaccine.—We have on several occasions used this vaccine with the most satisfactory results. A very large proportion of untoward complications after vaccination are in our opinion due to two chief causes: first, because the patient's skin is not cleansed, and secondly, because septic micro-organisms are subsequently allowed to enter through want of proper protection of the inoculated area.

Vaccine lymph is so carefully prepared at the present day that it is but very rarely that this can be found fault with. Dr. Renner's preparation of vaccine is carried out on strictly aseptic lines. The calf is carefully selected, irrespective of sex, as to health, nutrition, and cleanliness. The animals are fed exclusively on new milk and raw eggs, and sometimes a little sweet hay.

Before vaccination, the area to be inoculated is shaved and thoroughly washed with soap and water. The region selected is that of the right inguinal region, the right side of the abdomen and chest, and in the male the scrotum. The animal is vaccinated by shallow incisions and scarifications, chiefly the former, with lymph taken a few weeks previously from another animal, only that lymph being used which has been obtained from typical and well-formed vesicles.

The day preceding the lymph collection the calf is placed on the operation table, washed, and the vesicles covered with a thin layer of chemically pure glycerine. In collecting, generally on the sixth day, only those vesicles are selected which are well formed, and the borders of which are in no way ragged, or the surface covered by moist or yellow crusts. The best vesicles are the silvery-white, smooth-bordered ones, having firm, brownish, adherent crusts, or no scabs at all. Such vesicles are taken *in toto*, and mixed with an equal weight of pure glycerine, without trituration, or any preparation. This mixture is kept carefully protected until the vaccine is wanted for distribution, when it is passed through a triturating machine, more glycerine and sterile water being added if necessary. The fluid is then filtered through fine metallic gauze, and drawn into capillary tubes. Everything coming into contact with the vaccine is rigidly sterilised by dry hot air, or by boiling water. Immediately after collection of the lymph the calf is slaughtered, and the tissues and every organ are minutely examined by a duly qualified veterinary surgeon. If there is the least suspicion of disease, the whole quantity of lymph obtained is destroyed.

It is this careful preparation, guarded by such necessary precautions, that enables us to strongly recommend this lymph for general use in vaccination.

Nutritive Suppositories — Griffins.—We have received a sample of these well-known suppositories. Rectal alimentation is of the utmost importance in so many cases of disease of the alimentary tract that a trustworthy suppository which will really give sustaining nourishment is to be welcomed.

Nutritive enemata are admirable in many cases, but require the utmost care in their preparation and administration, while these suppositories are ready made, contain only nutriment and no irritative properties of any kind whatsoever.

Milk Preparations—Welford & Sons.—The milk supply of this company justly holds a very high place on account of its excellence and the careful manner in which the distribution is carried out. We have made ourselves acquainted with the methods employed to ensure the strictest cleanliness in all the operations which have to be carried out in a large dairy.

The question of utensil cleansing is one of the most important that has to be faced.

Messrs. Welford and Sons have an excellent system for the washing of churns and cans. The churns and large cans before they receive any fresh milk are washed out with a solution of soda, and then, after being turned over and allowed to drain, they are subjected on their inner surface to a jet of steam. This not only thoroughly sterilises the

interior, but owing to the temperature to which the metal is raised, the churns and cans dry automatically. Small cans are also washed with soda, and then boiled.

The glass utensils remain twelve hours soaking in a solution of caustic potash and caustic soda, they are then washed by a revolving brush, and afterwards rinsed by jets of water.

We would draw especial attention to the adequate and constant supply of asses' milk, which is being more and more used as a food where ordinary cow's milk disagrees.

Messrs. Welford's "Facsimile Human Milk" fully warrants its appellation. It is prepared from fresh sterilised milk from cows which are specially fed so as to increase the amount of fatty substance in the milk they yield, and to diminish the amount of casein. There is no addition of any foreign substance whatever, and the curd obtained from it is peculiarly soft and flocculent. The milk also retains its original colour and taste, for in its sterilisation great care is exercised not to over-heat it so as to burn the milk sugar, or otherwise alter its constituents. The fact that three eminent medical men are employed in inspecting the farms and attending the employés is in itself proof of the care with which Messrs. Welford and Sons conduct their milk supply.

The Electro-Neurotone Apparatus. Hodgkinson's Patent.—This is an apparatus devised for the application of electricity (chiefly the faradic current) as a therapeutic agent. There are different forms for special use: one is adopted for general faradisation of the limbs; another has been specially devised for application to the muscles of the back; a third by means of which galvanism may be used; and finally there are several special forms of electrode for local purposes. The principle of them all is the same, viz., the *local* application of the electric current. This is obtained by placing the electrodes in close apposition, whereby the so-called neutral electrode, commonly required, is done away with. The electrodes are made of nickel-plated steel, thus overcoming the necessity of the sponges, which are so inconvenient as commonly used. From practical application we have ascertained that the faradic current as applied by this instrument is both pleasing and efficacious. When used under medical direction and in suitable cases we have no hesitation in saying that it will prove a valuable and useful instrument for the application of electricity, and we can thoroughly recommend it.

The West End Pathological Laboratory.—We have recently visited the West End Pathological Laboratory in Weymouth Street, W., and it would be hard to find a more complete collection of all the complicated appliances now necessary

for the laboratory investigation of morbid specimens. Various time-saving "dodges" for the analysis of urine, &c., apparatus for photomicrography, skiagraphy, spectroscopes, a powerful electric centrifuge, ovens, incubators, &c., make the place a very interesting one for a medical man to visit, and the directors intend, we understand, to give evening demonstrations to all members of the profession who care to attend. It might also be useful to members of the Society to know that the laboratory is at all hours at their disposal for any practical work that they may care to perform for themselves.

NOTES AND NEWS.

IT is eminently satisfactory to be able to record that the festival dinner of the West London Hospital, held on November 10 last, was a noteworthy success. The Duke of Devonshire occupied the chair, and he was supported by Mr. William Bird, J.P., D.L. (chairman of the hospital), his Eminence Cardinal Vaughan, General Goldsworthy, M.P., Sir Crichton Browne, and many other subscribers and friends to the charity. In responding to the toast of the "Medical Staff," excellent speeches were delivered by Dr. Donald Hood, the senior physician, and Mr. C. B. Keetley, the senior surgeon. In the end the result of the appeal was announced, amounting to £2,870. This sum will be used for the purpose of assisting in defraying the building debt of the new wing.

THE annual dinner of the medical staff of the hospital took place at the Café Royal on November 2, and a record attendance was present. Mr. Alfred Cooper, consulting surgeon, occupied the chair. Many matters of interest and importance to the charity were discussed.

THE Cavendish Lodge (2620) in October last entered upon the second year of its existence. At the Lodge held on October 20, Bros. Alderton and Palmer were raised to the third degree, and Mr. R. J. Gilbert was admitted into Freemasonry. After the discharge of the ordinary business the ceremony of installation took place, and Brother P. S. Abraham was duly installed in the W.M.'s chair, and subsequently the other officers of the Lodge were severally invested. An emergency meeting of the Lodge was held on November 17, at which Bro. Buckmaster was raised to the third degree, and Bros. Somerset Eccles and Gilbert were passed to the second degree, while Messrs. Shepard,

Pardoe, Cudmore, Jackson Clarke and the Rev. B. Potter were admitted into Freemasonry. At the meeting of the Lodge on December 7, Bros. Eccles and Gilbert were raised to the third degree; Bros. Shepard, Jackson Clarke, Pardoe and Cudmore were passed to the second degree, and Dr. Sydney Russell Wells was initiated into Freemasonry. At this meeting the resolution to contribute a sum of 5 guineas out of the Lodge funds to the West London Hospital was confirmed. Bro. Charles J. Jackson, P.M. (Fulham Lodge), has been elected a joining member.

A PRIVATE Nursing Home for medical, surgical and accouchment cases, as will be seen from our advertisement pages, has been opened at 76, Shepherd's Bush Green, W., by Nurse Caunter. I am glad to call attention here to this fact, inasmuch as such a home is likely to prove of great service to medical men in the district. Mrs. Caunter has had much experience in the large nursing homes in the West End, and has nursed for many of the operating surgeons in London. Moreover, personally, I can testify to the home being in every way satisfactory, and I can, therefore, with confidence recommend it.

THE following changes have taken place during the past quarter in the staff of the West London Hospital: Dr. William Hunter having resigned, a vacancy occurred for the office of Assistant Physician. An unusual number of highly qualified candidates offered themselves for the vacant post, and in the end Dr. P. Beddard, late of Guy's Hospital, was elected. Mr. Bowater Vernon, who had filled the office of Ophthalmic Surgeon to the hospital since 1872, resigned in October last, and the ophthalmic department has been placed in my charge—the post of Assistant Ophthalmic Surgeon, created in 1885, having, by resolution of the Board of Management, been abolished. An election has also taken place for an additional—the fourth—anæsthetist to the hospital, in which Dr. Shuter, of Chiswick, was successful.

THE paper on "Gunshot Wounds," read by Mr. Henry J. Davis before the Society, and which is published in full in the current number of the JOURNAL, has attracted attention beyond the audience before whom it was discussed, and this is not surprising, for Mr. Davis told the story of his experiences in the Græco-Turkish war in an interesting and graphic manner, while his conclusions and observations upon the effects of modern projectiles are both original and instructive.

THE February meeting of the Society should prove attractive to the members. The Council have arranged to have a

discussion upon the subject of "The Infectivity of Cancer." This title, however, has not been definitely decided upon, inasmuch as, perhaps, in the present state of our knowledge it implies too much. The evidence so far certainly goes to prove that there is a micro-organism of cancer, and that the disease is an infective one. But unfortunately, this "missing link" in the pathology of cancer has not yet been discovered. "Missing links" have a bad propensity for keeping out of the way just when their presence is most desired.

MR. STEPHEN PAGET has received a large measure of praise for his book on John Hunter, but if I mistake not, even more praise will be accorded him for his life of Ambroise Paré, the great French surgeon. The book is a delightful one—it is even fascinating. In this country not much is known of Ambroise Paré beyond his name. But as Mr. Paget says, "We seldom hear his name in England, save that it is sometimes said he invented the ligature of arteries, which he did not." A copy of the book has just been sent by the publishers for review, and I shall hope to find space for a full notice of it in the next number of the JOURNAL.

PROBABLY there are few persons who have not had an opportunity of remembering with disgust one of the incidents of their nursery life, namely, the occasion upon which they were first called upon to take a dose of castor oil. The loathsome, sickening, unctuous mess had to be swallowed, because a law to that effect had been passed by the Lower House in the domestic parliament. But the hideousness of the after taste was such that nothing could efface it from their long-suffering gustatory faculty. However, in their discriminativeness in this matter, children are by no means peculiar. A well-known horticulturist has said:—"There is hardly an instance in natural history of a plant so universally detested by the animal world as the castor-oil plant. No sort of bird, beast or creeping thing will touch it. It seems to be a rank poison to all the animal world; even a goat will starve before biting off a leaf, and a horse will sniff at it and turn up his upper lip as if it had the most detestable odour on the face of the earth. The locusts will pass it by, though they may eat every other green thing in sight, and there is no surer way to drive moles away from a lawn than to plant a few castor beans here and there. Even the tobacco worm will refuse to be fed on its leaves."—In view of such a strong consensus of opinion against the castor-oil plant among the lower animals, the reasonableness of the children's protest seems plain.

P. D.

THE

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Original Communications.

THE TRANSMISSION AND DISSEMINATION OF CANCER.

By Charles A. Ballance, M.S., F.R.C.S.
Assistant Surgeon to St. Thomas's Hospital, &c.

The intimate pathology of cancer[1] is a subject which has engaged my close attention for many years. Since I returned from Leipzig in 1885, I have been continuously engaged with my friend and colleague, Mr. Shattock, in an endeavour to solve the problem of the intimate nature of this disease. More reasons than one led me to study cancer. My own family has been decimated by it. As a student I read, in those wonderful lectures on surgical pathology, the doctrine of cancer maintained by Sir James Paget, and the view that cancer is a micro-parasitic disease is hardly more than a legitimate and natural extension of that doctrine. At Leipzig, I joined the first class in bacteriology ever formed in that ancient university, and returning to England found myself one of the few in this country at that time capable of carrying out a bacteriological research. I had for some time determined to work at cancer, and having the good fortune of the acquaintance of Mr. Shattock, who had made a like resolution, we at once commenced, with all the ardour of youth and hope of great discovery, an attempt to cultivate a vegetable parasite from malignant tumours.

[1] The term cancer is used to include all malignant new growths.

We are met to discuss the transmission and dissemination of cancer, and I take it that it is at the outset desirable to state clearly and precisely what is known and what is probable with regard to its real nature.

Statistics.

Notwithstanding the well-reasoned statistical arguments of my old fellow student, Dr. Newsholme,[1] by which he endeavours to prove that there has been no increase in cancer, there is, in my judgment, a well-grounded belief in the profession that this disease is more frequently seen than formerly.

In 1891 Mr. Shattock and I referred in a published paper[2] to the Registrar-General's returns, which showed that there had been in England a decided increase in cancer. In a period of thirty years there was a rise of 62 per cent. in the male persons affected, and of 43 per cent. in the female. On the basis of the statistics of the three previous years of males over 35 years of age, one in twenty-one it was calculated would die of cancer; of females, one in twelve.

In the last published report of the Registrar-General, namely, that for 1895, there is shown a still further increase in the mortality from cancer in England, which accounted for 22,945 deaths, or 755 per million of the population, which is the highest cancer death rate on record. There is clearly, therefore, a decided increase of the disease, which seems unaccountable merely on the hypothesis that the increase in numbers has resulted in greater accuracy in making the returns.

Theories of the Intimate Nature of Cancer, and the Argument in favour of its Parasitic Nature.

Clinically, there is a well-marked division of tumours into innocent and malignant, or simple and infective; but if we had in the widest sense critically to define a tumour, we should find that, as in other problems of biology, definition

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[1] *Proceedings of the Royal Society*, vol. lv.

[2] *Transactions of the Seventh International Congress of Hygiene and Demography*, vol. ii., 1891.

was impossible. The line of distinction between a well-marked anatomical tubercle and an osteoma, or between an excessive accumulation of fat, as on a Hottentot's buttock, and a diffuse lipomatous tumour, can only be arbitrarily drawn.

Setting aside, then, such a class of new formations as the fatty accumulations on the buttocks of the Bushwoman,[1] which may be explained as variations not surpassing many of those encountered in the progress of mammalian descent, the theories of tumour pathogenesis may be reduced to the three following: (1) Spermatic Influence; (2) Embryonic Residua; (3) The Parasite Doctrine.

I.—Spermatic Influence.—The first theory views the growth of a tumour as due to the spermatic influence of certain cells upon those contiguous, the latter being, as it were, fecundated or incited to subdivision by the former. Assuming this view to be correct, it would only explain the method of extension, not the origin of a new growth. Whence come the cells which possess the supposed influence? Although difficult to disprove in the case of tumours of the connective tissue series, a fatal objection to this view is furnished by carcinomata. The explanation of the secondary formation of squamous-celled or columnar-celled carcinoma in a lymphatic gland, by transformation of the leucocytes or cells of the stroma into squamous or columnar epithelium, cannot

[1] Dr. Alfred Hillier, who has spent some years in South Africa, writes to me as follows with regard to the Bushwoman:—"The development of fat on the buttocks of the Bushman, and still more markedly on the Bushwoman, is a normal provision of nature, and presumably the outcome of environment and natural selection. A similar provision exists in the fat-tailed Cape sheep and the humps of the dromedary and camel. They are reserve stores of food, found of inestimable value to the fauna of a desert country subject to prolonged droughts, and in which, under natural conditions, great fluctuations in the food supply are experienced. The Bushmen stand lowest in the human scale. They possess neither flocks nor herds, and they do not cultivate the ground. They are entirely dependent on wild fruits and roots, an occasional head of game, and carrion. Wild vegetable food thus forms their staple diet. After the rains they, in common with the other fauna of the country, grow sleek and store up fat; then comes the drought, the earth is brown, and when the drought is prolonged becomes also barren; food is scarce and poor in quality, and then it is that the reserve supply of fat becomes so essential in the struggle for existence. It is probable that the much greater accumulation in the case of the woman is a provision to meet the additional demands of pregnancy and maternity."

be admitted; there is no histological evidence for it, and it is contrary to the fundamental observations of normal histology. Conversely it is important to notice, too, that elements of epiblastic descent are never, after their full development or evolution is reached, converted into any of the forms of connective tissue. The special anatomical characters of the secondary growths in carcinoma are ample proofs of their source from the primary tumour. The sarcoma cell possesses doubtless the same determinate hereditary tendency; and the best proof of this fact is furnished by the melanotic variety, where the pigmentation of the secondary tumours is sufficient evidence of their origin from the primary growth.

The malignant new formation tends to invade the surrounding tissues, and further, it gives rise to the production of secondary tumours.

From these facts it must be held, in the case of carcinoma, that an unnatural or morbid character has been imparted to the epithelium. This change is physiological, not anatomical. It is not the epithelial multiplication alone which constitutes carcinoma; this occurs, though not to such an extent, in adenoma and on free surfaces under various conditions, but it is the growth of the epithelium into the surrounding tissues. The epithelium acts in fact itself in a parasitic-like manner, and as an alien growth preys upon and flourishes amongst the normal tissues.

Simon's[1] and Creighton's[2] theory, that the cancer cells have a spermatic influence on the tissues around, the elements of which they incite to multiply, in reality leaves untouched the main question under discussion. If this spermatic influence be admitted, the moment and manner in which it is acquired yet require to be demonstrated.

II.—Embryonic Residua.—This view—already foreshadowed by Virchow in regard to chondromata of bone—was extended by Cohnheim so as to cover the whole field of tumour production.

The theory relates the growth of a tumour to a physiological cause, namely, to the inherent capacity which embryonic

[1] "An Address on some Points of Science and Practice concerning Cancer," *Brit. Med. Journal*, 1878.

[2] *Path. Soc. Trans.*, vol. xxv.

tissue in general possesses for growth. It is therefore possible that, where some excess of any particular embryonic cells occurs, it may give rise to benign growths of the same histological character.

That the transport of a normal cell is not sufficient to account for the indefinitely-growing secondary tumours is proved by Leopold's[1] experiments, which show that portions of healthy growing tissue, if transplanted, though they grow for a while, subsequently undergo atrophy; they do not grow into tumours.

In the epithelial grafting practised upon healing ulcers, the evidence of a reserve power of growth is clear; but such grafts never grow into carcinomata—they grow to an extent limited in accordance with their normal capacity, and with their determinate hereditary tendency, and perhaps also in accordance with the physiological requirements of the part to which they are transplanted. In this respect the history of normal and of cancer cells is markedly different.

Cohnheim's theory appears possible in a certain number of instances of benign tumours, but untenable when applied to malignant growths; for it entirely fails to explain the characteristic destructive, local and metastatic action of cancerous cells.

Metschnikoff[2] writes:—"Cohnheim's theory is not deduced from facts established by scientific methods, but has been built up in a purely speculative manner, and rests only on probabilities. Tumours in general, and malignant tumours in particular, are supposed to be due to exaggerated vegetation of primary foci detached from the embryonic folds and gone astray in different parts of the organism. These stray germs of tumours, after existing for many years without giving any sign of their presence, are supposed to begin to proliferate in an extraordinary manner, overrunning the individual and in the end killing him. As embryonic folds are peculiar to all Metazoa (that is to say, multicellular animals), it is quite natural to suppose that invertebrates are also suitable subjects for the development of tumours analogous to those of man

[1] A similar result was obtained by Cohnheim and Maas (*Virchow's Archiv*, vol. lxx.) in the case of periosteum, &c., made to lodge in the lung.

[2] *Brit. Med. Journal*, December, 1892.

and the superior animals; but although the inferior animals possess an ectoderm and endoderm like vertebrates, nothing has ever been found in them resembling epithelial tumours.

"Amongst the very numerous diseases of the inferior animals (insects, crustacea, worms, &c.) many infections are found, but never cancer. If, however, for the production of this latter only a fragment of a stray embryonic fold is required, it is not clear why invertebrates should be exempt from such growths. On the other hand, invertebrates and inferior organisms in general present numerous cases of tumours, only these tumours are always of parasitic origin. There are infectious tumours, but there are none of the fragments of embryonic folds detached and transformed into neoplasm. Is it not possible that man and the superior animals may be subject to the same law, and that in them, also, true neoplasms, and especially malignant tumours, may have a parasitic origin?"

Cohnheim in his last contribution[1] to the literature of the subject criticised the parasitic doctrine, but since the publication of this paper our ideas as to infection have been greatly modified, and the apparent absence of contagion in cancer cannot now be adduced as negativing the parasitic nature of the disease. His hypothesis is ingenious, but after all purely speculative, and the more we learn of the pathology of parasitic diseases the more improbable does it appear, the less convincing is it to the mind.

III.—The Parasite Doctrine.—The modern development of the irritative theory is the parasitic. It by no means follows that, if true of malignant growths, benign tumours must be relegated to a like cause.

The great features of malignant tumours are their metastasis, or, to adopt the parallel furnished by the infective granulomata, their infectiveness, and their devouring, destructive action on surrounding tissues.

The clinical history of a case of carcinoma or sarcoma is so closely like that, for example, of tuberculosis, that it is quite within the truth to assert that there is no feature in the last-named disease which is not parallelled in the others, as will appear from the following considerations:—

[1] *Berlin. Klin. Wochenschrift*, 1882.

(1) Carcinoma sometimes has a purely *local origin*, in the same way that the tuberculous infection-process may arise by direct inoculation, and remain a local though a spreading disease. So I should look upon some examples of squamous-celled carcinoma of the lip in smokers, the early and free removal of which may be followed by complete cure of the disease. In other words, a patient suffering from a carcinoma which has arisen as a local disease, and has not passed beyond the stage of local infection, may not only be relieved by the knife from the actual disease, but freed from an almost certain secondary infection. The case, in fact, is exactly comparable to one of local tuberculosis arising from direct inoculation, or to external anthrax whilst it is yet a local process, and might be termed one of local carcinomatosis. Against this view, thus typically illustrated, the main argument adduced is that all those exposed to the local irritation arising from smoking should become therefore the subjects of carcinoma. But the efficient cause lies beyond the mechanical irritation, which is but the partial cause of the disease;[1] and the question resolves itself into this—why are some persons infected under such circumstances while others escape? Reflection will suggest possible answers—the irregular distribution of the virus, the dependence of its efficacy upon the various elements of environment, personal predisposition, &c.

My revered teacher, the late Dr. Bristowe,[2] compared

[1] Butlin ("International Encyclopædia of Surgery") notices as a remarkable fact telling in favour of the parasitic theory of cancer, that the lymphosarcoma of the cobalt miners of Schneeberg, Hesse, undoubtedly a true tumour disease, occurs only amongst the miners in the cobalt pits, killing all the men who work there for a certain number of years, but affecting none of the persons in the neighbourhood who are not employed in the pits. The irritation in the lungs produced by working in the cobalt mines seems comparable to the irritation of the lip produced by smoking. In either case the irritation effects may be thought of as preparing a suitable place for the entrance of the *causa causans* of cancer.

A considerable amount of evidence has been laid before me, which tends to show that the true miners of Staffordshire, namely, the men who go down into the coal pits every day and daily become covered with "antiseptic" coal dust, never suffer from cancer, while the workers at the surface of the ground, around the entrance to the pits and in the surrounding villages, are liable, like the rest of the population, to the disease.

[2] "Practice of Medicine," 1st edition, 1876.

cancer to small-pox, and stated that, in his view, every general specific disease begins as a local process.

(2) *The metastasis by lymphatics and blood-vessels* in carcinoma and sarcoma is such as occurs in tuberculosis. It may be generalised tuberculosis (general sarcomatosis or carcinomatosis). Even the glandular infection which occurs at times without primary lesion has its counterpart in squamous-celled carcinoma of the inguinal glands in chimney-sweeps, in whom there may be no discoverable primary growth. The latency of glandular infection is equally represented in tuberculosis and carcinoma; I need only mention the latency of tuberculous gland infection in childhood, and compare this with the often long delayed obvious disease in the lymph glands of the axilla and neck after removal of carcinomatous tumours from the breast and tongue respectively. The sarcoma that grows at the end of a long bone after injury is comparable with the tuberculous osteitis ensuing under similar circumstances. Injury is the determining cause, but is not the whole cause; the other factor is a "constitutional" one. The many recorded cases in which cancerous tumours have rapidly grown after injury bear comparison with the lesions arising under similar circumstances in tuberculous subjects. The variations in the rapidity of onset, and in the subsequent history of the morbid process in the latter case, have their counterparts in malignant disease. (See cases of acute traumatic malignancy, by Barwell, *British Medical Journal*, 1883, and Pearce Gould, *Medical Society's Transactions*.)

Predisposition may be provisionally thought of as a soil or culture medium favourable to the growth of the virus. The tuberculous diathesis bears a just comparison with hereditary syphilis. Klebs and Bircher suggest (Ziegler's "Pathology") that the remarkable limitations in the distribution of goitre and its occasional epidemic outbreak tells in favour of its parasitic origin. Goitre is sometimes congenital in man; the same too is true of animals. The congenital occurrence of cancer may be studied in the same regard.

In rare cases, besides the general diathesis or the congenital presence of disease (tubercle, syphilis, or cancer), there appears to be transmitted a particular local predilection for the manifestation of the disease; this implies more than a develop-

mental defect, such as are easily recognisable in the case of the skin as moles or undescended testicle. One of the most striking instances is given by Moore ("Antecedents of Cancer," 1865): a mother and her five daughters all died of cancer of the left mamma.

The micro-parasitic doctrine of cancer reconciles the advocates of the "local" with those of the "constitutional" origin of cancer, by deciding that the origin of cancer may be either.

Having regard to the malignant characters of carcinoma and sarcoma, it is possible that the same parasite may find a suitable soil in one case in epithelium, in another in the connective tissue. Sir James Paget[1] cites a few cases in which the same insect produces different kinds of galls according to the different sites of oviposition. And so in hereditary cancer there may arise variations in the kind of morbid growth, the essential cause of the disease remaining the same.

(3) *Auto-inoculation* from one carcinomatous labium to the other has long been known, and an instance is authenticated of the transference of carcinoma from an ulcerating tumour of the breast to the skin of the paralysed[2] arm in contact with it. In the *Path. Soc. Trans.*, vol. xix., the case is related of a man who suffered from epithelioma of the penis some months after the death of his wife from uterine cancer.

There are many examples of gastro-intestinal carcinoma in which many lesser growths have been found below the primary tumour, pointing to the possibility of an auto-inoculation of the same kind as that of the intestine in tuberculous phthisis.

In a case of carcinomatous stricture of the upper part of the œsophagus there were traceable, from the main growth downwards in the mucous membrane, long extensions of the disease. These growths were limited to the summits of the rugæ, and there was a small growth on the mucous membrane of the stomach opposite the cardiac orifice. Here the most reasonable view of this dissemination is that the infecting material in its transport along the œsophagus from the ulcerating tumour had directly inoculated the most prominent

[1] "Elemental Pathology," *Brit. Med. Journal*, 1880.

[2] *Path. Soc. Trans.*, 1881, paper by Harrison Cripps.

portions of the rugæ. The patient had been for many weeks treated by catheterisation. In this case it is difficult not to believe that the course of events had been the same in kind as that which leads to the secondary infection of the intestine in tuberculosis of the respiratory tract, or of the lower part of the urinary tract in tuberculosis of the kidney.

Such facts at any rate show that the disease is transferable in the same individual, without proving that a parasitic virus is present in the cells transferred.

Human carcinoma cannot be grafted on any of the lower animals. Certain experiments apparently show that cancer can be transferred from one animal to another of the same species. In all transplantation experiments between animals of the same or different species it is important to recognise the difference between a graft and a true infection. Hunter "grafted" human teeth to the combs of cocks. When carcinoma or sarcoma is successfully grafted from one animal to another, true infection could not be said to have occurred till genuine metastasis was demonstrated.

Mr. Shattock and I fed two white rats over a period of seven months with fourteen fresh scirrhous carcinomata to ascertain whether infection of stomach or intestines, such as ensues from the ingestion of tuberculous material, could be induced. On killing the rats the pylorus and other parts of the alimentary tract were found to be quite normal. Whether the rats would have enjoyed the same immunity if we had been able to feed them with rat carcinoma is doubtful. Hanau[1] showed that squamous-celled carcinoma could be experimentally transferred from rat to rat.

(4) *Geographical Distribution.*—Tetanus is more common in certain parts of the globe than in others. The same is true of tubercle,[2] to say nothing of those specific diseases which, like malaria or cholera, are endemic. And cancer has, in the

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[1] Hanau, *Centralblatt für Chirurgie*, No. 42, 1889. Dr. Wehr (*Transactions of 18th Congress of German Surgeons*, 1889) transferred successfully carcinoma from dog to dog; and Hahn (*Berlin. Klin. Woch.*, 1888) transferred a cancerous nodule from one spot to another in the same person; the graft grew and invaded the surrounding tissues.

[2] Buchanan, quoted by Theodore Williams in Quain's "Dictionary of Medicine" (p. 1167), "Damp districts, clay soil, moist atmosphere."

same sense, a geographical distribution. Cancer, too, is more common in towns (relatively to the population) than in rural districts. Cancer[1] is said to be unknown in the frigid zone,[2] and it rarely occurs among the inhabitants of the torrid zone, though in the more populous parts it is not unknown. In Peru, where extremes of heat and moisture occur, acute tuberculosis and acute forms of cancer are not uncommon. The environment favouring these two diseases appears to be much the same. Hirsch[3] and Milton[4] report the rarity of cancer in Egypt, Tunisia and Algeria, and Sir John Simon[4] its prevalence in New Zealand.

Haviland's[5] conclusions with regard to England and Wales are (1) "that geologically the hardest and most elevated rocks are the sites of the least mortality of cancer: (2) that along the river courses which flood their banks seasonally, such as the Thames, the Severn, the Mid-Devon and Yorkshire rivers, are to be found the districts in which the highest mortality takes place, and especially is this the case wherever the floods are not easily drained off and are much coloured by alluvium. The mortality from cancer is highest in Devon. The Thames counties, characterised by their tertiary soil and frequently flooded river, form, as it were, a typical cancer field."

Cancer Houses.—(*a*) Dr. Ackerley communicated to us some facts about a house at Ashburton in Devonshire, in which four patients had died in a few years. The house is situated on low ground, and the cellars are below the level of a small stream which runs through the town about twenty yards from the house. Other cases of cancer had occurred in neighbouring houses. The proportion of deaths from cancer in the division of Devonshire in which Ashburton lies, to deaths from all causes, is as 1 to 17; it is 1 to 27 for the whole of England.

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[1] Collective Investigation Record, *Brit. Med. Journal*, 1887, "Low-lying districts near rivers and on clay soil;" Haviland, "Geography of Cancer," &c., 1875 and 1892.

[2] Erichsen's "Surgery," 8th edition, vol. i.

[3] "Geographical Pathology," New Sydenham Soc., 1886.

[4] Personal information.

[5] *Loc. cit.*

(*b*) Dr. Law Webb[1] was kind enough to spend a morning in showing me over a village in Shropshire in which all the cottages supplied with water from a certain pump were, at the time of my visit, or had been during recent years, in occupation by persons suffering from cancer. I brought home a large flagon of this pump-water; it contained numerous bacteria and protozoa, and I shall presently relate the experiments Mr. Shattock and I carried out with it.

(*c*) Mr. Lawrance, of Hammersmith, gave me some years ago particulars of a cancer house in this neighbourhood. He will doubtless himself give us particulars of this house, so I shall not further refer to it.

(5) *The Phenomenon of Atavism.*—It is within my knowledge that whilst the first and third generations of a particular family were devastated by cancer, the second wholly escaped. "The tendency," as Paget[2] says, "which existed in the parent may never become in him or her effective, although it may become effective in the offspring." Bristowe[3] writes: "Atavism occurs in tuberculous families; parents seemingly healthy, may beget a family who all die of phthisis. The taint is latent *in transitu.*" The change of diathesis (for cancer, which not only passes over certain generations but appears in different generations under different forms) may arise from a temporary impoverishment of the peculiar soil or diathesis, which impoverishment might result from the activity of the parasite. The phenomenon, in short, is comparable to that which necessitates in agriculture a rotation of crops.

(6) *Further Considerations.*—(*a*) The increase in cancer may be explained by considering that there is no hindrance to the marriage of persons of cancer parentage, as there is in the case of tuberculosis, in which disease children so often die young; so that there must be a constantly growing proportion of the population which shares in the constitutional defect.

(*b*) A general tuberculous infection has been observed to follow operations on localised tuberculous lesions, but this

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[1] *Birmingham Medical Review*, December, 1892.

[2] "Lectures on Pathology," 1853, vol. ii.

[3] "Practice of Medicine," 1876.

appears to arise only when the operation is not performed away from the seat of disease. A similar event has been observed in some cases of cancer. In ulceration following carcinoma the infection is hastened, as evidenced by the rapidity of the secondary growths; this appears to indicate an increased passage of infective material.

(*c*) As supporting the view that many cases of carcinoma arise by direct infection from without, may be quoted the statistics drawn up by Andrews.[1] The author collected 7,881 cases of primary carcinoma of different parts; these showed that external parts, including the alimentary tract, are most prone to the disease.

(*d*) Wild animals are believed to be exempt from cancer. Domesticated animals, or those closely associated with man, suffer from the disease.

Experiments Designed to Elucidate the Problem of the Intimate Nature of Cancer.

In 1887,[2] Mr. Shattock and I read a paper in which we showed that no vegetable parasite could be cultivated from malignant new growths; and we suggested that the parasite of cancer, if one existed, might belong to the Protozoa.

In this research some thirty malignant tumours were employed, and the media used were gelatine, agar, broth, hydrocele fluid and serum from the horse, sheep, and human placenta.

In 1890[3] we read a paper at a meeting of the Royal Society, in which we showed that human cancerous tissues could not be engrafted on the lower animals, in other words, that cancer in man could not be made directly to cause cancer in brutes.

The tumours used in these experiments were twenty-three scirrhous carcinomata of the breast and six sarcomata; the animals were monkeys, dogs, cats, rats, rabbits, and sheep. The result of all these experiments was negative. The

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[1] *Journal of American Medical Association*, November, 1889.

[2] "Cultivation Experiments with New Growths and Normal Tissues," *Trans. Path. Soc.*, 1887. Ballance and Shattock.

[3] "An Experimental Investigation into the Pathology of Cancer," *Proc. Royal Society*, 1890. Ballance and Shattock.

pieces of transplanted tumour invariably underwent coagulation necrosis, and were either completely absorbed or encapsuled in the tissues.

Seeing that we had not been able to cultivate any micro-organism belonging to the protophyta from cancer, and that the disease was not capable of experimental transmission, we decided to attempt the cultivation of an animal parasite. This work extended over a period of five years, and in no department of it have we obtained a positive result. The method of transmission in infective diseases is not always direct and simple, and the failure to cultivate a parasite does not disprove its existence.

As a first step we experimented with a disease due, without doubt, to the presence of a parasitic protozoon, namely, psorospermosis in rabbits.[1] We found it impossible by the methods of (1) vaccination, (2) subcutaneous injection and (3) intravenous injection, to infect a healthy rabbit with psorospermial material obtained from the liver of a rabbit suffering from the disease. These experiments seemed to show some analogy between psorospermosis of the rabbit and the insuperable difficulty we had experienced in producing a cancerous infection in the lower animals.

Metschnikoff[2] related an analogous fact in reference to the protozoic disease, malaria in birds; the blood of an infected bird containing the hæmatozoon of malaria is incapable of reproducing the disease in a healthy bird.[3]

About this time the researches of Sjöbring,[4] Foa,[5] Soudakewitch,[6] Ruffer,[7] and others, showed that in sections of carcinoma stained by special methods there were present certain bodies which were alleged to be parasitic Protozoa, but since neither spores nor spore cysts have been as yet observed, at

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[1] "Inoculation Experiments with Psorospermia," *Path. Soc. Trans.*, 1891. Shattock and Ballance.

[2] *Loc. cit.*

[3] The disease can be communicated from one person to another by injecting the blood containing the parasites. See Muir and Ritchie, "Manual of Bacteriology," 1897.

[4] *Fortschritte der Medicin*, 1890.

[5] *Gazzetta Medica di Torino*, 1891.

[6] *Annales de l'Institut Pasteur*, 1892.

[7] *Journal of Pathology*, 1892.

any rate, not such as will satisfy modern criticism, Koch's second postulate, namely, the cultivation of the organism, must be fulfilled before these appearances can be said to demonstrate the presence of parasitic Protozoa. The "Russell[1] body," too, and the blastomycetes of more recent observers, Roncali,[2] Sanfelice,[3] &c., must submit to the same test before their presence in cancer as parasites can be allowed.

The experiments designed to cultivate a parasitic protozoon from cancerous tissues consisted in the use of sterilised sand and water contained in small deep capsules and Petri dishes.

The following was the method of procedure[3]:—

Sand.—Silver sand, from which the finest part had been removed by sifting, was baked in a shallow, thin, iron dish over a large ring Bunsen for an hour. It was then transferred to the small deep capsules and Petri dishes about to be used, which had been previously baked for an hour at 150° C. in the hot-air steriliser. The capsules so charged were then baked for an hour at 150° C.; on removal from the steriliser the sand was heaped up on one side by shaking the capsule, so that when the water was added, part of the sand was submerged and part remained above the level of the fluid. The object of this proceeding was to obtain a littoral in order to ensure better aëration for any Protozoa that might develop.

Water.—This was distilled and collected in a sterilised flask; it was subsequently boiled for from four to five hours with the object of rendering it quite sterile.

Transference of the Tumour.—The malignant tumour was received fresh from the operating theatre. The redundant tissue around was removed with sterilised scissors; then, with knives previously sterilised at 150° C. for an hour in an iron box, pieces of the growing edge were cut away, and transferred with sterilised forceps to the capsules; they were laid on the sand just beneath the water level.

In six of the capsules—five of which were infected from different tumours—we found at the end of about six months

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[1] *Brit. Med. Journal*, December, 1890. See also paper by Shattock and Ballance, *Brit. Med. Journal*, 1891.

[2] *Journal of Pathology*, January, 1898.

[3] *Proceedings of Royal Society*, 1895.

actively moving amœbæ; but not being satisfied entirely with precautions taken against possible error, we conducted a further series of experiments consisting of twenty-three capsules examined at regular intervals for eighteen months. In none was any trace of protozoic life discovered.

The experiments were varied in many ways:—

(*a*) Cohn's fluid was used in eight capsules instead of water. (*b*) Infection of ten Petri capsules was attempted by adding to them dilute broth or potassium oxalate plasma in which lumps of carcinoma or sarcoma had been allowed to remain for months. (*c*) Many capsules were infected with lumps of sterile cancer which had been soaking for months in potassium oxalate plasma, or sterilised milk, to which had been added 6 per cent. of glycerine. We used potassium oxalate plasma because Sherrington had found that leucocytes would live in it for weeks.

All our cultivation experiments were negative, but it seemed possible that the pieces of sterile cancer which had been soaking in various media for months had undergone some change which would cause them to be now infective.

It might be that the hypothetical protozoon as it occurred in the human body was not in a phase in which it could convey infection (this holds true of certain parasites), but that it might be necessary for a certain phase to be passed through outside the body, presumably in soil or water.

We therefore minced certain tumours—scirrhus, epithelioma, sarcoma—and added them to large capsules of sterile sand and water, allowing the maceration to go on for many months, with free access to the external air.

The following infection experiments were made:—

(1) The fluid from the large capsules, containing myriads of amœbæ, bacteria, &c., was injected into the veins of dogs.

(2) The axillæ of twenty rats was scarified under chloroform, and the above fluid, with soot and sand, was rubbed in. No cancerous infection occurred in fifteen months.

(3) The same vaccination experiment was carried out on twenty other rats with the water obtained from the village pump in Shropshire before referred to, and also with the Ashburton cancer water. These experiments were also continued for fifteen months.

(4) We fed many white rats for months with boiled rice

and bread to which was added either the Shropshire or Ashburton cancer water.

(5) We also introduced into the peritoneal cavity of many white rats portions of cancerous tumours which had been allowed to remain soaking for months in sterilised milk, in very weak broth, or in potassium oxalate plasma.

(6) We buried mammary carcinoma in garden soil and subsequently inserted portions of the tumour exhumed after six weeks into the abdomen of rats.

(7) Also in many rats we introduced through the tunica vaginalis into the peritoneum, wet sand in which squamous-celled carcinoma or the sediment from the Shropshire pump water had been added months before.

In none of these experiments did we succeed in infecting the animals with cancer.

(8) Again, we fed worms with pieces of mammary scirrhus placed in sterilised sand and water with the idea that it might be necessary for the hypothetical protozoon to pass through the body of some lower form in order to acquire an infective property for man and animals. The experiment failed although the cancer was devoured; the worms died, doubtless because the sterility of the sand had deprived them of all other kinds of nourishment.

Seeing that failure attended all our efforts to cultivate from cancer, by the wet sand method above described, a parasitic protozoon, we tested in the same way the possible presence of a similar parasite in other tissues and lesions in which the microscopical appearances have also been held to indicate the presence of a protozoon.

These were[1]:—(1) Vaccine vesicles; (2) molluscum contagiosum; (3) pancreas of salamander; (4) the muscle of the frog containing microsporidiæ.

To our surprise all these experiments, though continued for many months, yielded no positive results.

Lastly, as related to the first postulate of Koch, reference may be made to the *chemistry of carcinoma.*

(1) In cultures of pathogenic bacteria albumose is present. If cancer is due to the action of a specific microphyte, albu-

[1] *Proceedings of the Royal Society*, vol. lix., 1895.

mose might be found in malignant growths. The tests show that albumose is not present.

(2) The capsule of encapsulated Protozoa consists at times of chitin or cellulose—both of them substances altogether absent from the tissues of vertebrates. The tests show that neither is present in fresh scirrhous tumours. The research was very kindly undertaken for us by Dr. Brodie.

Again (*a*) Koch's original tuberculin was a 50 per cent. glycerine extract of tubercle cultures, and produced certain definite results in local tuberculous lesions.

A 50 per cent. glycerine extract of fresh scirrhus when injected[1] into a patient suffering from scirrhus mammæ produces no obvious local reaction, but only a feeling of warmth in the neighbourhood of the growing tumour.

(*b*) The injection of the toxin of diphtheria into the body of a horse induces the production of an antitoxic substance.

The blood serum of an animal into whose body cancerous tumours or their extracts have been injected in the hope of obtaining a cancerous antitoxic serum has not yet been shown to be curative of cancer.

I have been unable to bring before you any experiment, either of the culture or infection type, showing that cancer is a micro-parasitic disease. The negative results have a certain value as furthering a knowledge of the pathology of cancer, though only by way of exclusion. It should be borne in mind that the negative results of experiment do not disprove the existence of a parasite, and that likewise the few positive experiments (such as Hanau's) do not prove it.

Did time permit I should like to point out that the culture experiments designed for the discovery of Carcinozoa may have been ineffective because we were able to adopt a plan of cultivation suitable only for some species of Protozoa, such as the common amœba. The number of species increases so vastly as an approach is made to the first beginnings of life, and so little is known about the Protozoa, that future investigation will probably disclose the existence of many organisms the structure and physiology of which are as yet quite unknown. If the parasite belongs to the Protozoa, there are

[1] See note on treatment in the chapter on the "General Pathology of New Growths," by Shattock and Ballance, in vol. i. "Allbutt's System of Medicine."

many things that are known of the life history of these creatures, such as the phenomenon of rejuvenescence and the mode of reproduction by splitting up into a hundred pieces or spores, which offer some explanation of how infection might occur; and how, when it has occurred, the epithelium might be left without visible change.

Dr. Alfred Hillier writes:[1]—"Observation and experiment have shown cancer to be a disease which is non-communicable, or almost so, and from which no parasite has hitherto been cultivated. Neither of these conditions can be held to support the parasitic theory of disease, but at the same time, neither can they be held, as some critics of the theory have averred, to contraindicate it.

"The 'plasmodium malariæ' has not yet been known to the scientific world for ten years, but its existence is undoubtedly established. Attempts at cultivation outside the body have, moreover, hitherto been entirely unsuccessful.

"The 'leprosy bacillus' swarms in the tissues of a leper, but the disease is most rarely, if at all, communicated from one individual to another, and all attempts at cultivation of the bacillus have signally failed.

"A bacillus of syphilis has been discovered which has been confirmed by some and denied by other observers. That this disease—so highly contagious—in its primary and secondary stages is due to a parasite, there is, however, little or no doubt, yet what subtle change comes over it between the second and tertiary stages of the disease. Tertiary syphilis, sometimes so terrible in its ravages, is non-contagious, its parasite non-communicable. This change within the human body may be analogous to the change which the 'leprosy bacillus' apparently undergoes on entering the human body. May the cancer parasite not run some such course? These considerations, it is true, are largely hypothetical, but we are considering the 'pros' and 'cons' of what at present is a theory, and the evidence furnished by malaria, leprosy and syphilis, at least serves to show that the negative results hitherto obtained in the researches for a cancer parasite do not in any way necessarily militate against the existence of a parasite as the cause of that disease."

[1] Private letter.

The theoretical considerations, therefore, in my judgment, in favour of the micro-parasitic nature of cancer, some of which I have endeavoured to lay before you this evening, remain as cogent as ever. The parasitic doctrine recommends itself as bringing the essential pathology of malignant growths into natural relation with other diseases, the parasitic pathology of which admits of scientific proof. The natural history of cancer, its auto-inoculability, and the facts relating to its distribution, all point in the same direction. And notwithstanding the fact that no positive demonstration of the living nature of the virus is yet forthcoming, I cannot doubt that such a demonstration will eventually be achieved; and I venture to submit that no other hypothesis, hitherto advanced, is capable of giving an adequate explanation of the pathological phenomena of this disease.

INFLAMMATION, ABSCESS AND NEW GROWTHS IN THE CAVITIES ADJOINING THE NASAL CAVITIES, AND THEIR OPERATIVE TREATMENT.

By J. L. W. Thudichum, M.D., F.R.C.P.Lond., &c.

During the early years of the existence of our Society, twelve to fourteen years ago, I communicated a series of observations, all supported by abundant clinical material, of which a portion was demonstrated before the Society, on the subject which I propose to further illustrate by later and progressive observations. During the early days referred to, the inquiry concerned in the first place the question of diagnosis and pathology. Ethmoid disease, that is to say, disease of the ethmoid bone, its covering, its cavities, and its contiguous regions, in the forms indicated by my title, was then clearly defined for the first time, as I had not then found, and have not since seen, any reference of a date preceding my publication to such affections as typical pathological forms. The most typical and the most frequent form, namely, *ethmoid*

abscess, involving the contiguous orbit, had been so frequently mistaken for inflammation and abscess of the lacrymal efferent apparatus, that even when, anatomically, the difference was well established, it still remained difficult to secure the differential diagnosis during the acute stage. I believe that at present such a confusion is hardly likely to occur. But further specialisation of observation, and increased means of diagnosis have made known another and not less frequent error in diagnosis, namely, the mistaking of ethmoid disease for affection of the antrum of Highmore, the maxillary sinus. If mere statements of comparative numbers could be called statistics, it would follow from materials published in some organs of the medical press of North America that disease of the antrum, particularly purulent disease, was there thirty times as frequent as in London. This is the result of a comparison instituted specially for the purpose of this inquiry, by the registrar of one of our largest and best served London hospitals. When the average number of ethmoid cases is introduced as a factor, the relative proportions approach a better average.

I have shown in my previous communications that the ethmoid bone and region is particularly liable to acute and chronic localisations of dyscrasias, which we now consider as settlements and multiplication of agents of living contagium, mainly cocci and bacilli. I believe that accompanying these primary causes there are frequently processes set up in the cavities under consideration, chemical processes, which act by mere ferments, and outlast the bacillary process. The nasal passages exhibit an immense power in the destruction of pathogenic and other micro-organisms, whereas the purely zymotic, pathic processes just alluded to exhibit an immense power of resistance to these natural agents not only, but also to strong mineral and organic antidotes.

This applies mainly to the true nasal cavity, and less to the contiguous nasal cavities, the ethmoid, sphenoid and frontal cavities and the maxillary sinuses. In these the self-disinfecting power, so to say, is at least inferior to that of the Schneiderian membrane ; their mucous glands are invaded and hypertrophied, and remain so even after subsidence of the specific bacillary process, and when their minute openings are obstructed or narrowed by pressure or hypertrophy, the

stagnating secretion maintains the process, and adds putrefactive phenomena to the pathic ones, and this greatly complicates the conditions.

Acute and *Chronic Ethmoiditis*.—There are a great number of degrees of this affection, which is mainly of dyscratic origin. The mildest is generally termed a cold by mistake, and when it continues for a number of years is certain to lead to either polypus or hypertrophy, or other structural degeneration.

The *early symptoms* of such a case will probably consist in a feeling of uneasiness about the brows, a sense of pressure, of narrowness of air passages, respiratory insufficiency, so-called. This mostly appears in the morning; sneezing may be superadded. Then sometimes before noon, all symptoms just mentioned being aggravated, a kind of fit of secretion begins, with or without sneezing, and when this has passed the patient feels tired, depressed, or even exhausted, and is more or less impeded in his attention to business.

If you now examine the nasal cavity with Drummond's light you will see the results of great congestion; the lower turbinated bodies touch the septum, and are thereby sometimes the main cause of the severe sneezing. Cocaine hydrochlorate will cause contraction when applied with a pad of cotton wool and kept in contact, and allow of inspection of the meati.

The *ethmoid region* is hardly ever cleared up or opened by this proceeding; it is hypertrophied, and the third (and fourth concha only present in large strong men) concha is never visible; there is no open space whatever between the perpendicular lamina of the ethmoid bone, forming the uppermost part of the septum, and the latent or cavernous sinuous part lying between the nasal canal and the orbit.

All the apertures leading from the sinuses to the nose are either narrowed and closed by swelling, or by pressure from the close packed nature of the surrounding parts, particularly the third concha, closes the ethmoid sinuses just underneath it; the secretion collects in the cavities, and is only allowed to escape when its accumulation has forced a way through the swelled aperture. The conditions are worst when the upper concha has been so hypertrophied as to represent a hollow bladder-like body, empty and dry (the membrane having no mucous glands in its tissues), or filled with a gelatinous mass

and containing now and then a small deposit of pus, a residue from an abortive acute onset. Such a formation we may term an *ethmoid* (conchal) *bulla*.

Catheterism of the Ethmoid Cavities.—In a healthy nose, or an irritated one which has been pacified by cocaine, it is feasible to find, identify, and probe all four canals leading to the main ethmoid cavities. By proper instruments the contents of the cavities may be frequently ascertained, and may be washed out, and the surface of the cavity may be healed by medicinal applications. It is found that the cavity to which the *second sinus* from the front backwards leads, is the most frequently affected. In the cases of purulent discharge from the ethmoid region it is most frequently the second sinus which discharges the pus.

By thus clearing the cavity of pus and mucus, by washing it with a warm lotion, of boracic acid, most finely pulverised iodoform, in other cases zinc sulphate and zinc oxide, or serum holding zinc in solution (zinc-serum), or aluminum acetate, a permanent cure is not rarely effected. When there is fœtor, permanganate is also necessary for a period. In a manageable case the fœtor disappears first, then the pus; this yields to *ropy mucus*, which comes away in coherent little masses, and this also disappears. In this way I have cured some chronic cases which had lasted for several years; even a case in which tuberculous lung disease co-existed with the nasal trouble was completely cured.

When *chronic* hypertrophy does not allow us to reach the sinuses it will be necessary to reduce them by *iodides*, e.g., of *iron*, particularly given as pills. To effect such a reduction requires weeks and months of time and treatment; the reduction is mostly only partial. There remains as "ultima ratio" of the surgeon, operative restoration of the ethmoid space.

The removal of bullæ is relatively easily effected by the electro-caustic loop, and is sometimes so effectual as to ensure a radical cure. This operation also ensures the removal of a number of nervous symptoms arising from pressure on the olfactory roots and on the rhinal nerve, which symptoms, mainly vertigo, are spread by the rhinal ganglion. When the loop is inapplicable from want of space, the bullæ may be removed by the forked cisorium, of which, of course, a very delicate form is required.

The *reduction* of the *hypertrophied ethmoid bone* and the reopening of obstructed ethmoid cells is effected by a cylindrical tubular chisel or gouge, which is inserted so as to pass between the cavity and the mucous membrane into the substance of the ethmoid bone, and remove a core of its cancellous tissue. It is advisable to begin at the foremost end and progress backwards, taking care to remove all cores entire. I have removed as many as eight cores, of about two millimetres diameter, and four to six and seven millimetres length, in three sittings, there being no bleeding to speak of, and no subsequent reaction. In rare cases hard bone is met with, which in one case broke the instrument. But behind this hard place a core was obtained; the ethmoid was opened, and the protuberance in the corner of the right orbit produced by the collection of polypi and mucus in the ethmoid cavities was entirely removed, both the mucus and the polypi passing by the made canal and aperture into the nasal cavity.

By this means we can prevent the formation of *ethmoid abscess* in cases in which it has occurred, or does repeatedly occur. In one of my cases the patient was liable to have ethmoid swelling in the naso-orbital space every winter, with every cold, and abscess, sometimes bilateral, opening sometimes into the conjunctival space, but requiring lancing above the inner angle of the eye.

Nasal ethmoid polypus not rarely forces its way into the orbit, and produces those protuberances above the lacrymal sac which were ascribed to lacrymal obstruction. In such cases, if no intranasal passage be established by art, it will be necessary to incise the protuberance, and then either mucus, or pus, or a polypus will make its appearance. With proper aid, and after the removal of any polypus by the electro-cautery, with the finest tool, and the thinnest platinum wire which it is practicable to use and to introduce into the orbit to the suture of the lamina papyracea, these lesions heal, particularly when incised, easily enough. But ethmoid abscesses, particularly in men, when not attended to early enough, burrow in several almost typical directions. They enter the orbit through the suture of the lamina papyracea, then pass forward to the attachment of the orbicular muscle, and next proceed either above or below that attachment to the conjunctival region. From hence they may invade the

upper eyelid, and open spontaneously on any part of it, or pass along the eyelid and reach the zygoma, or the supra-orbital space. I have seen such abscess canals point over the supra-orbital foramen, when I had to open it on account of great pain; and I have known it to point over the infra-orbital foramen, and burst while the patient was travelling on the railway to consult me; in this case there was great exophthalmos, the bulb being pressed downwards and outwards. I established a passage through the ethmoid bone (left side) by the gouge, and for the time at least, and nine months since, this case has been in a quiescent, and I hope I may say, cured condition.

Ethmoid fistula is a sequel of *ethmoid abscess and polypus*. It is liable to become chronic when opening through the orbit, either on the skin above the angle of the eye, or into the conjunctival space, or by a long round-about canal, into the nasal cavity. It is difficult to cure. The conditions of cure are re-establishment of the nasal aperture of the ethmoid cavity affected. For this operation I have constructed a special instrument, being a curved trocar, which is forcibly introduced through the orbit into the ethmoid cavity, and through it into the nasal cavity; the stile of the trocar being withdrawn, a lead wire is passed, over which the tube of the trocar is withdrawn; the wire is left and adapted to the course of the fistula. Not every case will bear the wire long, but it mostly helps to establish some internal passage. It is well to combine with it, in cases where the wire threatens reaction, the removal of a core from the ethmoid.

In such a case one can prove *the perviousness* of the passage by injecting a solution, *e.g.*, boracic acid, or ferrocyanide of potassium, and making it come out at the end of the fistula, proving its presence by chemical reaction. When using the tubular gouge, one may force a thick probang into the canal made, and press a little blood out of the fistula; I have also seen a bubble of air as a proof of perviousness, but this never persisted. While such a fistula may last years, yet the condition may be so far improved as to give rise to inconvenience to the patient only in case of severe coryza; with the aid of the tubular gouge a radical cure may ultimately be effected; in some cases a displacement of the bulb and a heaviness of the upper eyelid will be permanent.

An *ethmoid* abscess may *burrow* far and yet ultimately burst into the nasal cavity; it may form a large sac underneath the Schneiderian membrane, the pus may accumulate and become condensed to a cheesy mass. I lately had such a case under my care; it had been supposed to be the result of antrum, *i.e.*, maxillary disease, and been partially operated upon; but reaction ensued and a difficult state of affairs, on which I was consulted. I opened the antrum through the nose and found it clear. I then opened the second and third ethmoid cavity, and found it full of the white cheesy matter —condensed pus; this continued backwards and downwards around the second and lower turbinated bodies; these were removed, the ethmoid cavities were cleared, and a completely free passage established. The great neuralgic suffering which afflicted the patient was quickly removed, and the patient, after a year's freedom from all symptoms, reports himself as quite well.

The *gouging of the ethmoid* is indicated in all cases of nasal polypus in which the meatus is not free up to the cribrous plate. In this place is the seat of the relapsing polypus growths; however clearly a nostril may apparently have been operated, when ethmoid and septum, *i.e.*, the perpendicular lamina of the ethmoid bone touch, there is no certainty of polypi not being beyond in embryonal conditions. By restoring the ethmoid space many cases of pure polypus are healed absolutely, a smaller number obtain relief for ten or twelve years, and with a small auxiliary operation pass into a quiescent state.

In this operation care must be taken not to strike the *cribrous plate;* this is entirely avoided by accurate measurement, and by making the progress gradual. Dyscratic, particularly tuberculous cases, are the most trying, as they easily set up reaction, which spreads and may terminate fatally. Hence in such cases the prognosis should be aided by bacillary diagnosis, even on sections removed for the purpose. For tubercle of the nasal cavity, or intra-nasal lupus, is not so very rare as not to claim some diagnostic attention. I have observed several cases of this kind; the lower turbinated was the seat of the evil, small circular, cirsoid nodes, pustules and superficial ulcerations having lasted some years. All remedies failing, the ulcerated organs were removed; all

healed quickly and perfectly, and there was rest and no apprehension for six or seven years, then a small pimple ushered in an attack of lupus of the outer nose. I then did not see the patient until the disease was spreading over the alæ; *tuberculine treatment* effected some improvement, striking at first, but the patient was extremely ill and the injection had to be discontinued. In such cases I am sure that the removal of all affected parts, be they merely thickened, or ulcerated as well, from the nasal cavity, has impeded the progress of the disease for years; it is the application to the interior of the nose of the process which you apply to the exterior—destruction of the invaded tuberculous tissue.

Disease of the antrum is much less frequent than is believed, as disease of the ethmoid region is not rarely mistaken for maxillary. I would advise that abscess of the antrum be always drained through the nose by openings made, if necessary to be made, within the nose, near the seat of the natural openings. From hence the cavity is easily catheterised and flushed. Openings into the mouth through the alveolar process are too liable to establish a chronic incurable condition, as food is sure to pass through the fistula or the drainage tube kept in it.

The sphenoid cavities are still less frequently affected than the antra; two diseases I have distinctly observed, namely, polypus as part of polyposis from a bad form of specific disease (in such a case I drew a long thin polypus out of the sphenoid sinus, which was clearly before my eyes), and purulency with a form of *diplococcus*, which produced an adhesive layer of discoloured mucus over the pharynx. Affections of the sphenoid region are difficult to treat, and still more difficult to operate.

Of *new growths*, apart from polypi, the *fibroid* ones are the most frequent. In the case of a young lady, the daughter of a professional brother, the disease began in the alveoli of neglected decayed teeth, spread to the alveolar process, and into the antrum and nose. I advised operation, advice in which Sir James Paget coincided. I insisted upon saving the soft palate, which it had been thought advisable to remove. The operation was beautifully performed in the country; the outer scar is a mere line round the left ala and through the middle of the upper lip, and the maxillary cavity

is well lined and filled with a gold obturator which carries teeth. The case is one of the triumphs of surgical art.

Fibroids are indifferent or malignant; they sometimes remain long stationary, and then burst into action. I advise always to keep the nasal canals clear by the electro-cautery, even when there is no hope of cure. In a case of cancer I kept both meati clear to the last; the patient died of progress of the cancer through the optic canal into the brain.

In no case leave any ulcerated or dead bone in the nose, but remove every particle within reach. Disease in the sutures never heals until the parts to the sutures are asunder. In syphilitic cases with ulceration, remove the turbinated bodies early through the sutures; also all parts of the decayed ploughshare, then you can prevent perforation of the bony palate, which is always the result of ulceration in the cross of sutures between the palatal and maxillary bones.

The *operation* for *abscission* of the *lower turbinated bodies* for the cure of stenosis, *i.e.*, narrowing and obstruction of the nasal canals, has lately given rise to much discussion, in which even speakers participated who prefaced their remarks by the statement that they had no personal experience at all. They repeated some hearsay of the most immaterial kind, which could only fill up time and add nothing to science. This operation of partial or total removal of the concha is one of the most beneficial surgical proceedings, as a large experience proves, and those who publicly disapprove of it have, like the speakers alluded to, no personal experience of it. Of course much depends on the manner in which it is performed; in only very few cases is there any reaction, which sometimes involves the middle ear—perhaps once in five hundred cases—and even here the operation only pulls a trigger, which lets loose morbid materials already accumulated and ready to act on their own initiative.

But no doubt *the operation*, and many other so-called operations in the nose, have been used for purposes which no one can approve of. For this a German specialist, so-called, now deceased, was mainly responsible. He promised to cure epileptics and a host of nervous sufferers by burning them inside the nose, and in a season made some capital and a position. But he was soon appreciated at his true value, and he and his imitators, including those in this country

who followed in his footsteps, quickly subsided. There was even lately a kind of final echo to this movement in the proposal to cure female complaints—dysmenorrhœa, &c.—by burning in the nose.

I look upon my communication as a continuation of the papers laid before our Society in its earlier years, and I rejoice in the widespread attention which the subjects touched in it have secured for themselves. Most cases of nasal disease are now better diagnosed and better treated, and, what is of more importance, treated earlier, and more frequently cured.

By my operations on the ethmoid cells I have opened new possibilities, and approached nearer to a complete eradication of polypus disease. The first and second turbinated bodies are relatively easily cured of polypus; the third and fourth will now be equally amenable. I have had some cases under my care in which I have removed all the turbinated bodies and cored the ethmoids, and in which the radical cure is attained unilaterally, and is sure to be attained on both sides. But as long as some surgeons defend and use the forceps—a barbarous relic of barbarous times, and coarse principles, accomplished methods require assertion and re-assertion to prevent the injury which coarse proceedings undoubtedly produce. I have confined my practical observations to the operative treatment, and abstain from treating of medical proceedings, which is a vast subject by itself. This also has made progress in my hands, particularly as regards the treatment of typical summer catarrh, commonly called hay fever. Inversely this has profited by operative treatment, and thus we may record progress all along the line.

THE APPLICATION OF GUAIACOL IN GONORRHŒAL EPIDIDYMITIS.—Goldberg (*Deut. Med. Wochenschr.*, August 5, 1897) is a firm believer in the efficacy of guaiacol in the treatment of gonorrhœal epididymitis. The drug is either painted directly upon the scrotum or a mixture of guaiacol and glycerine, equal parts, is employed for this purpose.

NEPHRECTOMY AND ITS RELATION TO PREGNANCY.

By G. E. Twynam, M.R.C.S., L.R.C.P.

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During the last fifteen years, the energies of surgeons all over the world have been directed extensively to the disorders of the kidney. As a result, the removal of a diseased organ has more and more frequently been resorted to, with success in a very large proportion of the cases. Such a result has necessarily permitted a fairly considerable number of the population to continue their existence under vastly improved conditions, and among these, women have formed a large percentage. To a number of such, when restored to health, the question whether they are justified in marrying, or, if married in bearing children, must have presented itself. I do not propose to enter into the question of how far the loss of *one* kidney affects all individuals subjected to the operation, but purpose rather to see how far that loss may be expected to influence the after life of such small proportion of women as may become pregnant. At present I know of no data which may lead one to judge how far such a loss may affect the question of length of life—taking all individuals so operated upon from an insurance standpoint. It is, however, possible to judge to some extent of the dangers to be run by a woman who has had to undergo nephrectomy should she afterwards become pregnant. Particulars of six pregnancies at full term in women under these circumstances are on record, and I wish to bring before you particulars of three more such pregnancies, as well as of one case of nephrectomy during pregnancy. From these it is possible to draw some deductions as to what risks are run by the mother, so far as her own health is concerned, during the period of pregnancy and afterwards, and also whether the development of the child is in any way affected.

The cases on record are those of Schramm (*Berliner Klinische Wochenschrift*, No. 6, 1896), one confinement, pregnancy occurred two and three-quarter years after operation.

Fritsch (*Die Krankheiten der Frauen*, Berlin, 1894, p. 98), one confinement: no particulars given.

Irsael (*Archives f. Clin. Chirurgie, von Langenbeck*, vol. xlvii.,

1894), one confinement—the operation having been performed on a primipara when the woman was four months pregnant.

Tridondani (*Annali di Ostetricia e Ginecologia*, July, 1896), three pregnancies in the same woman. First confinement thirteen months after operation.

In my three cases one woman has had one pregnancy; another has had two pregnancies, while in the third the operation was performed while the woman was in the third month of pregnancy.

CASE 1.—*Calculous pyelitis nephrotomy followed by nephrectomy. Pregnancy seven months later.*—Mrs. F., aged 32. Multipara, came into hospital in July, 1893, suffering from pain and swelling in the right loin. She had had vomiting in the morning for some months, and also night sweats; menstruation had ceased for eleven months.

When examined, a tense, fluctuating tumour was felt, occupying the upper half of the right side of the abdomen. Dulness on percussion was continuous with that of the liver, and palpation was painful. The woman stated that she had passed gravel at times. The urine was acid with a thick deposit of pus. The other organs were healthy.

On August 2, 1893, the abscess was opened in the loin by an incision parallel to the rib. The kidney consisted of a series of cysts full of pus, from which a large stone and also a smaller one were removed, and the whole wound was thoroughly syringed out and a large tube put in. She recovered rapidly, passing—on August 5, 16 oz.; August 6, 17 oz.; August 7, 27 oz., which increased to 40 oz. by August 16.

On September 6 the ureter was catheterised to see if there were another stone present. The urine then was sp. gr. 1014, acid, no albumen, all pus coming by the wound. She went home for six weeks, but was re-admitted on October 30, stating that while at home pain had been constant, and that micturition had been unduly frequent, with, on one occasion, blood, and that there was a marked increase in the sediment. The pain had been much more acute whenever she passed large quantities of pus, but no gravel or portions of stone were found. Temperature 103·2°, pulse 92°, urine sp. gr. 1010, alkaline, containing albumen and pus. The kidney was removed through the old incision on November 1, 1893. In

separating the kidney from the peritoneum, to which it was very adherent, the latter was torn for about 2 inches; after removal of the organ this was sewn up and healed perfectly. She made an excellent recovery, except for a sinus in the loin. On the Easter Monday following she fell into the sea, and on reaching home found the ligature from the stump protruding from the orifice of the sinus, which closed within a fortnight.

This patient became pregnant in May, 1894, seven months after the operation. She suffered no more than she had done in her three previous pregnancies, except that the morning sickness was more severe, and that she felt very exhausted at times. The urine, when examined on September 6, 1894, at the completion of four months' pregnancy, was neutral, sp. gr. 1012, faint trace of albumen, no sugar, with a deposit of mucus but no pus, urea ·8 per cent. Examined again in December, at the completion of seven months, it was neutral, sp. gr. 1010, a trace of albumen, urea 1·1 per cent. Labour came on in February, 1895; the pains were exceedingly strong, and under her expulsive efforts the cicatrix yielded, and there was a large projection outwards of the abdominal contents. In order to prevent a ventral hernia chloroform was given, and she was delivered by forceps as soon as possible. She is now perfectly well, with a healthy child. Though there was a large quantity of *liquor amnii* it could hardly be called excessive.

CASE 2.—*Peri-ureteritis, pyonephrosis, nephrectomy. Two pregnancies.*—For the notes of this case I am much indebted to Dr. Collingwood, who sent the patient to me.

Mrs. K., aged 39, married fifteen years, mother of six children, all natural labours. Cystitis first occurred when the third child was four months old, and again seven months after the birth of the fourth child, when she "caught cold in the bladder." Retroversion of the uterus occurred at this time, followed by a miscarriage and further bladder symptoms, such as incontinence; at the same time she noticed that her eyesight was bad. After three months' treatment the bladder was explored under chloroform with no relief. In 1890 she complained of severe cutting pain, referred to the left ovarian region, incontinence of urine, straining and smarting during micturition, with pain in the left lumbar region,

and some pus was found in the urine, which was acid. A calculus in the ureter was suspected. An exploratory laparotomy was performed on December 26, 1890, by Drs. Collingwood and McCormick. The kidneys were normal to palpation, as also uterus and appendages. At the lower end of the left ureter within ¾ inch of the bladder there existed a thickening from ½ to ¾ inch long, involving the wall of the ureter, but as no calculus could be felt the ureter was not opened. Some amelioration of symptoms followed until July, 1892, when pus in large quantities was noticed intermittently in the urine, and the left kidney was found by palpation to be much enlarged. The patient was admitted into the hospital, and on September 21, 1892, I removed the left kidney. It is a point of interest that an uterine sound was passed from the bladder up to the kidney, the ureter being of the calibre of at least the femoral artery.

Mrs. K. became pregnant in November, 1893, fourteen months after the operation, quickened February 6, 1894, and was confined in August. Urea tests taken during the pregnancy and subsequently gave the following figures:—

February 7,	3rd	month	...	...	urea 1·4	per cent.
March 21,	4th	,,	...	...	,, 1·2	,,
April 10,	5th	,,	...	...	,, 1·15	,,
May 12,	6th	,,	...	...	,, ·7	,,
June 28,	7th	,,	...	...	,, ·55	,,
July, 7	8th	,,	...	...	,, ·7	,,
August 16	9th	,,	...	...	,, 1·2	,,
,, 24,	confinement					
October 14			...	...	,, 2·2	,,
December 10			...	...	,, 1·6	,,

A decrease in the percentage to the seven months, with a rise to the normal after the confinement.

She again became pregnant in June, 1895, and was confined in March, 1896. On both occasions the labour was normal, and the amount of *liquor amnii* was not excessive. She nursed both children, and they are the healthiest she has had.

Case 3.—*Pyonephrosis, Nephrectomy while Pregnant. Abortion, Uræmia.*—In this case, a rather delicate lady, aged 32, mother of four children, had never had any illness previous to her marriage in 1881, except that a horse fell and rolled on her

when she was 14 years old, with apparently no ill effects. She miscarried three months after marriage, and pain in the left side began directly after. The attack was very severe and persisted for weeks. She was taken to Melbourne for consultation, but got no relief, and was brought home in a moribund condition. After a very strong sleeping draught, a large quantity of water passed and she was relieved, but had attacks of pain every fourteen days, for twelve months. Pain ceased after she quickened with the first child, born in April, 1883, but returned three days after confinement; and she then passed a quantity of what she described as "dirty brown water like nasty tea, with a curious white sediment." A large firm tumour was detected in the left hypogastric region, close to the umbilicus. She recovered from this, and was free from attacks for some years. In 1890-91 commencing myxœdema was suspected, but passed off under liq. arsen. hydrochlor. She bore children in 1892 and 1893.

In 1893-94 the attacks returned, and in September, 1894, she passed urine thick with pus. The swelling in the loin was of the shape of a kidney, but twice its size. Another attack followed a fortnight later, and the enlarged kidney was distinctly recognised before the discharge of the pus. An extremely severe attack followed in November, the tumour increasing perceptibly daily, till it was as large as a child's head, only 12 to 20 oz. of urine being passed *per diem*. She was then in the third month of pregnancy.

No nourishment could be retained, nor could she sleep, having to be propped forward in bed in the position described by Dr. Newman (*Brit. Med. Jour.*, 2, 1897, p. 971).

Nothing gave relief. When seen in consultation it was decided that, owing to her weakened condition, immediate interference was necessary.

This was done on December 4, 1894, by the loin incision, and the kidney was found to consist of a huge cyst by the side of the spine, containing a quart of dirty brown, purulent, offensive fluid. The sac formed by the pelvis of the kidney, extended down by the side of the ureter for from 2 to 3 inches, the kidney itself consisting of a series of cysts. The question whether such a kidney could be of any further service, the risks attendant on leaving in a weakly woman a foul mass which could not be properly drained, the certainty

of a permanent fistula, and its eventual necessary removal, were considered. It was decided to remove it at once, which was accordingly done. No calculus was found. The wound was completely healed on the 17th day. The urine gave a result of 6 oz. on the first day, and an average of 38 oz. per day for the next fortnight. On examining the organ after removal it was noticed that the ureter ran in the wall of the pelvis of the kidney in a manner similar to that in which it enters the bladder, and consequently the greater the tension in the cyst the more firmly the ureter was closed. It was an exact instance of the condition stated by Simon of the alteration in the relationship of the kidney and its duct, quoted by Dr. Newman (*Brit. Med. Jour.*, 2, 1897, p. 971).

It was quite expected that the interference with the kidney would have brought on a miscarriage, as the patient had already miscarried on three occasions, and had had severe pain in the pelvis before the operation. However, this did not occur, and hence another serious difficulty arose—should the pregnancy be allowed to go on? At that time no cases had been published, and as there was no need for her to run any extra risk in order to have a child (she had four living) a miscarriage was brought on and the ovum came away on December 31, 1894. This patient had a mild uræmic attack with semi-consciousness for some hours and albuminuria when in New Zealand recruiting, within two months of the operation, led up to by a very rough passage across from Sydney. She was sent home at once, and on arrival had only a trace of albumen. The husband, writing fifteen months later, stated she had not required medical attendance since I left in June, 1895.

Each of the three cases has a point of interest—in the first a ventral hernia was only prevented by rapid delivery. The second discloses an interesting pathological history. An inflammatory peri-ureteritis, possibly originating from some pressure or injury during confinement (the marked symptoms began four months after the third child was born), was recognised at the lower end of the ureter by an exploratory laparotomy, and examined. The kidney on the affected side and other organs were found to be healthy. That this peri-ureteritis continued upwards was proved by the state of the ureter at the time of operation, and it eventually led to

the disorganisation of the kidney previously recognised as healthy. It may have been tuberculous in nature, though there was then no other evidence of that, for I have heard lately, that since her last confinement in March, 1896, she has had further bladder trouble with an ulcer on the posterior wall, thought to be tuberculous, which was scraped, with relief of all her symptoms. At the same time it must be remembered that Hurry Fenwick states that solitary ulcers of the bladder are rarely tuberculous (*Brit. Med. Jour.*, May, 1896).

In the third case, the combination of pregnancy with pyonephrosis was sufficiently serious, but when complete obstruction to the discharge of the pus occurred it added considerably to its gravity. The removal of the kidney at the time I believe to have been the better course, although the immediate shock was greater. As to the miscarriage, the after history of the case seems to justify the course then taken. The risk of throwing the function of depurating the blood of a mother and her child, at a stage at which the latter was beginning to develop rapidly, on a single kidney, which had not had time to hypertrophy, is very considerable. That the remaining kidney was scarcely able to meet the requirements of the mother's system alone is shown by the uræmic attack from which she suffered when the action of the skin was interfered with during the stormy passage to New Zealand. Had the pregnancy been allowed to continue eclampsia or uræmic coma would have supervened, and the fœtus would have been lost at a later period in all probability.

Tridondani (*Annali di Ostetricia e Ginecologia*) when discussing the effect of the loss of one kidney, admittedly greater in a pregnant woman, does not accept the belief that there is sufficient compensating power in the other kidney, simply by hypertrophy, to deal with the excrementitious materials of the body. He states that the elimination through it is greater of retrograde tissues, and especially of urea. If on the one hand the work of elimination is more active at other times than at pregnancy, on the other hand this creates conditions by which the renal activity can be more or less interfered with.

The nutrition of the glomeruli is affected by the venous stasis in the kidneys and the irritation caused by an excessive amount of urea, and a nephritis results followed by the albuminuria of pregnancy; and Tridondani quotes Murri as sup-

porting Heidenheim that albuminuria depends on slowing of the blood current in the kidneys. Such stasis Tridondani believes is induced (1) by the pressure of the enlarged uterus on the renal veins; (2) by the engorgement of the abdominal vessels which follows on the emptying of the uterus; and (3) by the fact that the uterine arteries, arising so close to the renal, take off a large proportion of blood from the kidneys during pregnancy.

He believes that such stasis is prevented by an increased *vis a tergo* by hypertrophy of the left ventricle of the heart, and that by that the dangers of pregnancy are avoided, and, if the heart be sound, women may expect to get through a confinement without undue risk.

If his contention be right, that such a venous stasis in the kidney occurs during the pregnancy by pressure from the uterus, it is evident that such pressure cannot occur before the seventh month, or the sixth at the earliest, from the anatomical position of the veins. Further, if the uterus presses on the renal vein it presses surely more on the vena cava and iliac veins, and should cause a similar stasis below the point of pressure; but œdema of the legs is specially remarked as being absent in several cases, and not mentioned in the others. As to the engorgement after confinement, it is to be noted that the albuminuria of pregnancy usually disappears in the first week or so after the emptying of the uterus.

Again, if hypertrophy of the heart be the means of safety for the pregnant woman, one would expect to find a hypertrophy, possibly not as great, but present in all cases in whom only one kidney remains. That hypertrophy of the heart takes place in all pregnant women to a certain extent is now generally accepted, but such hypertrophy does not free them from eclampsia or uræmia, although they possess two kidneys.

That hypertrophy of the sound kidney occurs in cases of disease unoperated on has been proved by *post-mortem*, but I have seen no *post-mortem* record of any case some months after nephrectomy. But by experiments on animals, Bradford showed that if two-thirds of the total kidney substance remained the animals were not affected, and that he could not be sure of cardiac hypertrophy even after six months,

though in dogs it was difficult to decide (*British Medical Journal*, May, 1895).

My own view as to wherein the safety of women under these conditions lies, is that the answer is to be found in an increased action of all the emunctories of the body, and not in hypertrophy of the remaining kidney or heart only.

I fully allow that these are large factors in the question, but have we not been too long under the impression that eclampsia and uræmia depend solely on the work done by the kidneys? Dr. Clifford Allbutt (*Lancet*, February 27, 1897) and Mr. Simpson (*Lancet*, July 10, 1897) have brought forward the question of the possibility of a serum toxin in pregnancy and its elimination by the liver and bowels. The toxin acts as an irritant to the kidneys leading to albuminuria, which thus becomes the symptom of the depth of the intoxication of the system, and not the real cause of the eclampsia. They point out that eclampsia is more common in primiparæ as they have not become inured to the poison, but in subsequent pregnancies the same women usually escape owing to their inoculation in their first pregnancy. I believe that the skin, bowels and lungs all do an extra amount of work. That the skin does so is shown by the effect of the chill on my patient No. 3, who developed a mild attack of uræmia consequent on diminished action of the skin—caused by a cold, wet passage from a warm to a cooler climate. There is also a very interesting case, reported by Mr. Bartlett (*Lancet*, December 4, 1894), in which uræmia came on four days after nephrectomy, and was relieved by profuse action of the skin.

This increased action of the emunctories is also, I believe, further shown by the analysis of the excretion of urea.

Winckel states that in normal pregnancy ("Text Book of Midwifery," p. 77) the secretion of urine is increased from 1,500 cc. to 1,750 cc., while the daily excretion of urea (28 grm. = 432 grs.) is as great as in the non-pregnant state. The urine, for this reason, is lower in specific gravity, and simply shows an increased excretion of water. Many other authors practically agree with this, but Drs. Liscia and Passigli (*Annali di Ostetricia e Ginecologia*, September, 1897, p. 703) have made a careful examination of this point. From thirty-seven observations they came to the conclusion that

the quantity and density agree with the figures for normal urine. Urea is diminished, chlorides remain normal, acids, sulphuric and phosphoric, are slightly diminished—creatinin slightly increased.

A comparison of the percentage of urea from their normal cases with mine after a nephrectomy (if one may judge from so small a number), seems to point to the excretion of urea by the kidney under these circumstances as being less than normal.

No. of Cases	In Normal Pregnancies (Liscia and Passigli)			No. of Cases	After Nephrectomy	
	Months of Pregnancy	Average % urea	Lowest % urea		Average % urea	Lowest % urea
3	Third ...	1·3	1·08	1	1·4	...
2	Fourth ...	1·23	·91	2	1	·8
1	Fifth ...	1·42	...	1	1·15	...
1	Sixth ...	2	...	1	·7	...
...	Seventh...	...	...	2	·82	·55
22	Eighth ...	1·51	·522	1	·7	...
8	Ninth ...	1·73	1·2	1	1·2	...
				Two months	after confine	ment 2·2
				Four months	after confine	ment 1·6

This comparison shows, so far as it goes, that the percentage in my cases only equals the lowest percentage in their normal pregnancies, instead of a higher one as was expected. Should this prove correct upon further examination, the balance of urea must be got rid of by other organs.

Analysing all these cases it will be found that (1) all the women made good recoveries who went to term, although Schramm notes a long recovery; (2) slight albuminuria was noticed in Schramm's case and in No. 1 of mine; (3) a tendency to ventral hernia in one case; (4) *liq. amnii* was not excessive in any case; (5) marked œdema is not noticed in any case; (6) Schramm notes an irregularity of the pulse shortly after the confinement, although hypertrophy of the left ventricle was present; (7) morning vomiting was severe, but not

dangerous in one case; (8) the forceps were used in one case only, and then merely to prevent ventral hernia; (9) eclampsia or uræmia did not occur in any case that went to full term, but did in my case, No. 3, shortly after the miscarriage; (10) all the children were healthy, and in Tridondani's and my case No. 2 it is specially remarked that they were the healthiest the woman bore; (11) in all the cases the mothers were able to nurse their children.

Hence I think we may fairly conclude that women can, after a nephrectomy, bear children without very great danger to themselves, provided their other organs and the remaining kidney are healthy. I may add that I have lately heard of another case in which mother and child did well, but I have not been able to obtain particulars yet. These cases show that seven women have gone through the ordeal, and that ten healthy children have been born to them.

METHODS OF OPERATION FOR CARCINOMA OF THE RECTUM.—Of late years, the sacral method of operation has almost replaced that of the perineal. The number of cases radically operated upon relative to those by the palliative method, increased as follows: 1877-82, radical 26, palliative 14; 1886-91, radical 68, palliative 8. It is to be considered contra-indication when the tumour overlaps (Uebergriff) the bladder, or when the upper end of the tumour is felt, bimanually, to be immovable from over the symphysis. The sacral method is chosen when the tumour reaches high up over the sphincter, or when the sphincter can be maintained, or when much bleeding is to be feared. If, by the maintenance of the sphincter, the tension is strong in the union of both ends (Darmenden), then is the sphincter split in the posterior middle line, and the two halves united with the upper portion (Darmstick), in order to paralyse, for some time, the sphincter. The temporary resection of the os sacrum in the above cases, was not attempted because of the difficult nature of the wound, the danger of necrosis of the bone, and the impossibility of allaying or preventing a sacral suppuration. There are 28 of these cases still living—18 sacral, 10 perineal. Continence was effected by the sacral method where it was possible to use the circular intestine needle (Darmnaht); relative continence was mostly attained by the perineal method; complete incontinence was the consequence of the sacral suppuration.—*Centralblatt für Chirurgie.*

Report of Proceedings.

Ordinary Meeting—January 7, 1898.

Dr. H. P. POTTER, President, in the Chair.

Nephrectomy and its Relations to Pregnancy.

Mr. G. E. TWYNAM read a paper under the above title, the full text of which is published on page 106.

The following discussion then ensued:—

Dr. AMAND ROUTH: Our Society is to be congratulated upon Mr. Twynam's paper, for if it can become sufficiently widely known, it will come to be regarded as the standard paper on the subject. I had a case in 1895 which would have caused me much less anxiety if this paper had then been published. The patient was a woman, aged 32, who became pregnant with her second child in September, 1895, and was then found to have a large, cystic, and very movable right kidney. The question to determine was whether this kidney should be operated upon, and whether the pregnancy should be terminated, and if so, when. After consultation with Sir John Williams, it was resolved to do nothing unless the urine afforded evidence that the left, or working kidney, was becoming inadequate. The patient went to full term and was delivered of a healthy child without incident.

Another case bearing on this paper came under my notice at Charing Cross Hospital recently. The patient was aged 27, and her last child was born in June, 1895. Mr. Morgan removed her right kidney through the loin for tuberculous disease in April, 1896. She again became pregnant in March, 1897, and when seen by me the right ureter, as it passed from under the broad ligament to enter the bladder, was nodular and as thick as one's thumb. This materially lessened the available conjugate diameter of the pelvic cavity. She was taken into the hospital under my colleague, Dr. Watt Black, and to prevent bruising of the ureter, and also because the urea excreted was becoming diminished, labour was prematurely induced at the thirtieth week, and she left the hospital on the fifteenth day. Subsequently the ureter was found to be considerably enlarged, and more tender.

Mr. Twynam's cases do not show how long it takes for a healthy kidney to undertake the work of two healthy kidneys when one is suddenly removed, for all the cases seem to have been where the kidney removed was already diseased, and to a greater or less extent functionless, and where, there-

fore, the other kidney had already been doing double work. His paper, however, shows very clearly that uræmia is not produced by removal of a kidney during pregnancy, and the further very important point is clearly made out that premature labour is not induced by nephrectomy, either by the increased amount of the primary products of urea which must for a time be in the system, nor by "shock," and this is only what one would expect, for it is well known that even after double ovariotomy during pregnancy, labour is very rarely induced. If we could obtain definite data as to the time required by a healthy kidney to efficiently perform the work of two, when suddenly deprived of its healthy fellow, we should be able to still more exactly estimate the risk of nephrectomy during pregnancy in any given case.

Mr. SWINFORD EDWARDS: I think I am in a position to answer Dr. Routh's question, viz., as to how soon after the removal of a healthy kidney its fellow is able to do the work of both, for in 1895 I performed nephrectomy in a case of severe laceration of that organ, due to a fall from a third floor window on to some spiked railings. On the fourth day after the operation the man, who is at the present time living and well, was passing 45 oz. of urine, containing 475 grains of urea, or about the normal amount. I agree with the author of the paper that his second case was probably not tuberculous for two reasons, viz., that tuberculous ulcers of the bladder are usually multiple, and that treatment by scraping of these lesions is often only palliative and not curative.

Mr. TWYNAM: In reply to Dr. Routh, the case he mentions of a woman three months pregnant, with the enlarged end of ureter, raises the question of the treatment of the stump of the ureter, and it is unsatisfactory, as the lower end is as an abscess cavity or a sinus, discharging pus into the bladder and causing cystitis, and I believe that to twist the pedicle very lightly and then stitch it to the wall of the loin is the best treatment.

Inflammation, Abscess, and New Growths in the Cavities adjoining the Nasal Cavities, and their Operative Treatment.

Dr. THUDICHUM read a paper upon the above subject, which is published in full on page 96.

The following discussion ensued:—

Dr. ALDERSON: I would not have offered any remarks on this interesting and learned paper we have just had the pleasure to hear—my own experience of abscess of the ethmoid being so limited—but I have been asked to propose a vote of thanks to Dr. Thudichum for his useful paper, and I do so with much pleasure. Abscess of the ethmoid appears

to me to be very rare, and in my own experience more rare than that of the antrum.

The instrument just handed round appears well adapted to open the abscess, and is apparently better and more convenient than the ordinary trocar formerly used. Dr. Thudichum's paper is one that requires thoughtful reading, and I am glad to hear that it will be published. It is full of originality and ingenious thought.

Dr. BALL: I think the Society is much indebted to Dr. Thudichum for his interesting and valuable paper. I quite agree with him as to the frequency of suppuration in the ethmoidal cells, and the frequent co-existence of this condition with nasal polypi. In dealing with the subject of suppuration of the accessory sinuses of the nose, one must divide the cases into two classes. In one class, the so-called latent cases, there is a free exit for the pus, and the chief trouble arises from a discharge of a certain amount of pus into the nasal cavities; in the other class, there is obstruction to the exit of pus, and symptoms of a troublesome, or often of a very grave character, arise in consequence. In the latter class of cases there is no doubt about the necessity of operative interference. In the former, however, the advisability of operation is not so clear. We have to balance the trouble which is present against a difficult and often prolonged course of operative treatment, which in the end may not be successful in arresting the flow of pus. This applies more especially to the less accessible sinuses. The antrum being very accessible may be treated with less hesitation. I cannot agree with Dr. Thudichum that the best site for opening the antrum is the wall of the nose in the inferior meatus. This opening is by no means favourably situated for after-treatment of the cavity by the patient. I believe that in every case in which a decayed tooth, or a gap between the teeth, exists, favourably situated for perforating the cavity, the alveolar opening should be selected, in the first instance at any rate. As to the relative merits of a tube or an obturator for the alveolar opening, I am not prepared to say; I have tried both. I think the disadvantages of the tube are mainly theoretical, and in any case they can be obviated by employing a plug for the orifice of the tube. As the alternative to the alveolar opening, in cases where the teeth are all present and sound, I prefer the opening in the canine fossa. This opening is of course the best for radical treatment of the sinus, scraping away granulations, removing polypi, &c. With regard to those cases of antrum disease in which, after prolonged treatment through the alveolar opening, the disease is not completely cured, it by no means follows that we should urge further and more

radical treatment so long as the patient is kept free from discomfort by daily irrigation of the cavity. It is an undoubted fact that, in spite of much that has been said and written about the success of this or that operation, the secretion of pus may continue after any or all of these operations. I agree with Dr. Thudichum that, in treating certain cases of nasal polypi, we should not be content with simple removal of the growths, but should remove more or less of the diseased ethmoid bone, in order to prevent certain and speedy relapse.

The Transmission and Dissemination of Cancer.

A discussion upon the above subject was opened by Mr. C. A. BALLANCE with a paper, which appears on page 77.

Mr. ALBAN DORAN: It has long been known that cancer is specially prevalent in organs with functions irregularly called into activity. The heart and the uterus come under this physiological class and are very subject to cancer. The stimulus is apparently peripheral, not central, and as with development, so it must be with transmission. Irritation of the nipple or glandular substance of the breast by clothing, and of the cervix by discharges and erosions, seems to act as a false or abnormal stimulus to the epithelial structures, which under natural stimulation produce milk or develop into the decidua of menstruation and pregnancy. When once the cancer has developed it becomes itself an abnormal stimulus, hence dissemination. Mechanical stimulation of the cancer certainly increases the disease; imperfect operations where a cancerous tract is left behind, the knife passing through it, are, as surgeons are well aware, usually followed by rapid advance of the cancer. Caustics often have a similar evil effect. The small-celled infiltration caused by the cancer re-acts on the disease and stimulates its advance. In respect to recurrence taking place after the very extensive modern operation for removal of the breast, we must not forget that the lymphatics of its inner portion pass through the thoracic walls to the anterior mediastinal glands. Hence, though the axilla may be cleared effectually, wounded lymphatics already infected, or possibly infected by the knife, may be left on the inner part of the wound. Nor is it certain that damaged lymphatics may not be left behind, even when the pectoralis major is excised. Probably, again, a small cancerous focus may lie latent and develop suddenly through some stimulus, such as irritation of the operation scar or disease in its neighbourhood. This would explain Mr. Christopher Heath's case, where a patient was free from recurrence at the end of

three years after removal of a cancerous breast, yet died two years later from cancer in the mediastinum.

Dissemination is apparently less active in cancer of the uterus than in cancer of the breast, but speaking surgically I fancy we must emphasise "apparently." Recurrence after removal of the uterus does not seem more rapid and inevitable than after amputation of the breast with free excision of the structures around it. Yet the vaginal operation seems clumsy compared to Mitchell Banks' amputation of the mamma. The truth is, however, that cancer of the cervix is less malignant than scirrhus of the breast, and that though we cannot cut very far outside the uterus, we are really handicapped in the same way on the pectoral aspect of a cancerous breast.

I think that no discussion on cancer would be complete without some notice being taken of deciduoma malignum. The German opinion of this disease is, that it is a malignant degeneration following labour or abortion, especially when a vesicular mole was expelled. Metastases of decidual tissue had been detected, it was said, in the abdominal viscera and even in the lungs. Unfortunately Professor Kanthack appears to be the only general pathologist, the only authority not a specialist, who has studied the subject practically. He has examined numerous samples of the disease, and has come to the conclusion that decidual tissue is indistinguishable from rapidly growing embryonic tissue or the indifferent tissue in a rapidly growing cancer. In fact, "deciduoma malignum" might prove to be ordinary cancer unduly stimulated by gestation. At all events there was a definite stimulus. The Society would like Mr. Ballance's opinion on the matter. Might vaginal injections carry infection from pumps in cancer villages?

Dr. McCann: Cancer may be defined as an atypical epithelial neoplasm of whose origin nothing definite is known. Statistics given by British and Continental observers seem to prove: (1) that women are more liable to cancer than men; (2) that about one-third of all cases of cancer in females are instances of cancer of the uterus. According to Winckel's statistics (*a*) one-fourth of all females who die of cancer die from uterine cancer; (*b*) nearly 3·5 per cent. of women who suffer from the diseases peculiar to their sex suffer from uterine cancer.

It may further be taken as proved: (*a*) that the commonest age for uterine cancer is between 40 and 60 years; (*b*) that the white races of mankind are specially liable to the disease; (*c*) that the lower ranks of society are more frequently affected.

Uterine cancer is more common among women who have borne children, and is comparatively rare in virgins.

Some authorities have asserted that the more labours a woman has passed through the greater the liability to uterine cancer. From my own experience I am inclined to doubt whether repeated child-bearing has such an important influence. As to the vexed question of heredity, I would point out that as the majority of the published statistics have been obtained from hospital practice, it is well known that as the poorer classes usually have a very vague idea of the medical history of their ancestors, it is easy to arrive at erroneous conclusions on this point. I am disposed to regard heredity, when proved, as a factor of importance in the causation of cancer.

Gusserow in 1,203 cases found only 90, or 7·8 per cent., in which cancer might have been produced by hereditary tendency. I am a firm believer in the importance of gonorrhœal infection as a cause of cancer of the cervix, more especially where that infection leads to a chronic cervical gleet. This is well shown in one of my own cases published in the WEST LONDON MEDICAL JOURNAL. As to the importance of cervical lacerations and scars, much has been written. I believe lacerations to be of importance, not as the future site of cancerous growth, but because they are frequently accompanied by septic change in the uterus, resulting in enlargement of that organ, and chronic discharges from its cavity. Indeed, the septic uterus, so commonly found among the poorer classes after abortion or full time labour, is, to my mind, a most important factor in the causation of cancer. How often do we discover an enlarged uterus where only the cancerous disease has as yet involved a small portion of its neck, and before septic changes have occurred in the growth.

The importance of enlargement of the uterus is further shown where such a condition persists after the menopause. It is commonly supposed that the uterus rapidly becomes smaller when the menstrual flow has ceased. Those who have examined many women after this cessation must have noticed that enlargement of the uterus persists in a large number. In my own experience it is the exception to find cancer affecting a uterus well involuted after the menopause. I would therefore urge the importance of carefully watching all patients whose uterus is enlarged after the cessation of the menstrual flow.

It has been stated that out of every thirty cases of uterine cancer the cervix is affected in twenty-eight. (1) As it occurs in the cervix it is almost always primary; (2) when it extends

it does not often lead to secondary deposits in distant parts of the body by contamination through the blood or lymph vessels, but spreads mostly by involving neighbouring and contiguous tissues and organs.

Secondary deposits in distant organs are not common in cases of uterine cancer. According to Blau the liver was affected in 9 per cent., the lungs in 7 per cent., and the kidneys in 3·5 per cent. Further infection of the pelvic glands is not so frequent, and occurs late in the disease. Thus uterine cancer is a local disease, and for a time remains local. It may therefore be removed by operation with results more favourable than any other organ in the body. The cachexia so frequent in this disease is the result of septic absorption. Rapid growth of the disease may lead to emaciation by using up the nutritive material of the body, *e.g.*, where the whole pelvic cavity is infiltrated.

I need not dwell on the consequences and results of advanced uterine cancer. These are, unhappily, known to most of us, forming a clinical picture never to be forgotten—extension of the growth into the rectum and bladder, with incontinence of urine and fæces, and finally gradual obstruction of the ureters, chronic uræmia, and death.

I trust I have said enough to impress upon those present the importance of making an early diagnosis, for the medical attendant incurs a serious responsibility who allows this disease to progress undiscovered. In the operation of total extirpation of the uterus we have a means of palliating, if not of permanently curing, one of the most terrible diseases to which female human flesh is heir.

Dr. HERBERT SNOW: While we must all feel grateful to Mr. Ballance for his elaborate paper, and for endeavouring to teach us so much in a brief compass, we must also, I think, rather deplore his boldness in covering so wide a field, which cannot be adequately discussed on such an occasion as the present. My own personal interest in his remarks is only surpassed by the extreme difficulty I find in following his conclusions, particularly in that which inclines to belief in a parasitic origin of cancer. Between the extensive group of malignant diseases, and all those which either confessedly or presumably own a microbic source, lies a deep gulf. In the latter, even before the discovery of the micro-parasite, there was, as in leprosy and tuberculosis, strong evidence of a contagious element conspicuously wanting in cancer. The parasite causes local cell proliferation where it is implanted, and no more. On the other hand, in cancer we have in all the metastasis, close mimicry of the parent structure, not only as regards the cells, but in every detail of their relative

arrangement, so that a morsel of breast tissue appears grafted in the lungs, the tubules of rectal cancer are exactly reproduced in the liver. The same in qualities: pigment cells, wherever distributed, continue to form melanine. It is impossible to comprehend how any microbe could effect this transference of tissue. Assuredly none that we know of does.

Cancer primarily falls into two great classes—the congenital, which fulfils Cohnheim's theory, and the non-congenital, which has no element of heredity whatever. The former (Blastomata) are numerically insignificant, and may be here disregarded. The latter, the ordinary cancer of the adult, is best understood by recollecting, first, the primitive amœbiform condition of the fœtal cells, whence all the structures of the body have emerged; secondly, by a natural classification according to tissue-origin. The autositic theory considers cancer a reversion of cell-elements to their original amœbiform state, so that each becomes a quasi-independent organism, an autosite. The new cells prey on the healthy tissues, and act exactly as a parasite would. The badge of all true cancer is (*a*) progressive erosion by the new cells; (*b*) auto-infection, involving transference to other parts. Clinical experience shows that the cancer process in each tissue needs a special mode of stimulation applied to its cells. Thus the connective tissue corpuscles respond only to direct violence; pavement-epithelium to chronic friction; glandular epithelium sometimes to mechanical injury, but much more frequently to neurotic and emotional causes.

The most prevalent variety, carcinoma, attacks organs such as the mammæ and uterus, which after a period of functional activity undergo devolution or permanent degeneration, and only when that last stage has been reached. Mammary carcinoma appears as the result of anything which serves to hinder or pervert the natural process of devolution. The principle holds good for visceral glandular organs, which also with age undergo a less conspicuous natural atrophy.

No cancer of any species appears without a direct exciting cause. This fact is the most vital of all arguments against heredity. My paper in 1885 dealt with more than one thousand cases of cancer, with three sets of control statistics drawn from consumptives, medical men, and people with miscellaneous ailments. The percentage of individuals with cancerous near relatives was no larger in the former than with the latter.

Auto-inoculation is an every-day occurrence in such lesions as epithelioma of the mouth and intra-peritoneal cancer. The facility with which it can be effected curiously contrasts with the difficulty of other inoculation. No conditions of soil,

climate, or food influence cancer development. Every case is purely sporadic, independent of every other. The so-called "cancer houses" are rare; usually widely different species are in question; no judicial inquiry has yet taken place. The geographical views of Mr. Haviland omitted many important considerations, such as the presence of large infirmaries in the towns.

The autositic theory, supported by much positive evidence, is the only one now in the field which explains—in my own humble view, adequately explains—all the complex phenomena of cancer; but it would of course be the height of presumption to hold it forth as final.

Dr. CHAPMAN: I know of a small town on the Kent coast where cancer is extremely prevalent, and of one house there where four consecutive tenants have been affected with cancer of the rectum.

Mr. J. R. AKINSON: I can only speak on this subject as a general practitioner whose experience is rather clinical than pathological. In reference to what has been said about the responsibility of medical men as regards prompt action in cases of cancer, with special reference to cancer of the uterus, it must be remembered that the disease is often far advanced before they have a chance of making a diagnosis. A woman may feel languid and out of health for a long time, but unless she has pain in the genital region she would resent the suggestion of a digital examination. My observations throw no light on the heredity of cancer. I have not been able to trace heredity in the limited number of cases that have come under my observation. Nor can one attach much importance to the question of surrounding or locality—*cancer houses*, so called, to which Dr. Snow referred. But within a period of three years I saw some seven cases of cancer in a small street or end of a street numbering only twenty houses. I do not remember that during that period I saw more than two other cases of cancer in the rest of the parish, although there were other cases, but not among my patients. One in a woman aged 60, married, no family, was a sarcoma of the uterus. Another, niece of the former, temporarily residing in the same house, had cancer of cervical glands on one side, which, on being removed, commenced to grow on the other side. (Both patients from Aberdeenshire.) The third case in a man over 60, who had a sarcoma in the neck. A fourth, an unmarried woman about the same age, had carcinoma os uteri. A fifth sarcoma, and two other cases were suffering from malignant disease. I have not, for about two years, had any fresh cases in that locality. I cannot therefore attach much importance to the surroundings

as regards cancer. But the *habits* of the people do, I believe, influence either the origin or the development of carcinoma of the os uteri. My observations corroborate the remarks of Dr. Snow on this subject. An unclean penis, apart from any venereal affection, is likely to have an irritating effect on the os, which from year to year, in the middle period of life, remains in a filthy state. I should like to know if a simple carcinoma of the os has ever appeared in a woman who has regularly syringed herself for a considerable length of time and kept herself scrupulously clean; whose husband also was clean in his habits. I have not noticed a case where the husband contracted malignant disease from a diseased wife. I am glad to hear the views of so great an authority as Mr. Alban Doran. It has often seemed to me that, given a cancerous deposit (we shall suppose it to be very minute), it acts like a foreign body; a proliferation of cells takes place, and the tumour grows apace. But why it should permeate every vital organ of the body with its malignant influence, and defy all attempts to effect utter extirpation, one cannot imagine. If there is some specific *germ* which may yet be detected it has qualities very peculiar to itself.

The PRESIDENT: I think this discussion has been justified for two reasons. We have listened to the most modern theories and recent scientific thought advanced in an able manner by Mr. Ballance and other eminent authorities on cancer; and secondly, the Society has had under discussion a widely spread and increasingly prevalent disease. Whereas phthisis and other tuberculous affections have of late years much decreased, we find that the incidence of cancer has more than doubled itself in less than twenty years. Any careful researches in this field must tend to minimise the ravages of this far-reaching and painful disorder.

Mr. BALLANCE: In reply to Dr. Snow, I have only to repeat what I have said in the paper, that the clinical parallel shown to exist between tuberculosis and cancer is striking and significant, and no impartial exponent of any other than the micro-parasitic theory of cancer can afford to leave unexplained such an important fact as the occurrence of lesser growths in the intestines below the primary seat of the tumour. Similar growths in tuberculosis are demonstrably due to an auto-infection with the parasite of the disease. What other explanation can be maintained with reference to cancer? The geographical distribution of cancer and the cases of cancer houses, together with the extraordinary history of the Shropshire village, all seem to indicate a parasitic origin. I maintain that there is no fact in the life of cancerous tumours which has not its counterpart in the history of undoubted and typical micro-parasitic diseases.

Mr. Doran asked me my opinion of deciduoma malignum. In the presence of a pathologist so learned in the diseases of the uterus and its appendages I hardly like to venture more than the suggestion that this malignant disease is comparable to what we are familiar with in general surgery under the name of acute traumatic malignancy. In regard to my opinion of the very severe operations now practised in certain cases of cancer, I would say that from the micro-parasitic view no operation is satisfactory which is not thorough and complete. I look forward to the time when, in I hope the not distant future, the crude methods of the surgeon will give place to a successful and more scientific treatment comparable to the antitoxic method, which has proved of so much value in certain diseases. In my judgment the more we learn of the intimate pathology of cancer the sooner and more certainly will this result be attained, and humanity be freed from the terrors of this dread disease.

[Mr. Ballance having referred to the cancer houses noted by Mr. Lawrance, I thought it would be of interest to hear what Mr. Lawrance had to say upon the matter; I accordingly communicated with him, and the following is his reply. —Ed.]

"The particulars of some cases of cancer occurring in adjoining houses are these: A lady living in a house in this neighbourhood (Chiswick), whom I attended, died of cancer of the liver. During the time of her illness of some months' duration there was often a very offensive smell in her room. A lady in the next house, being ill with liver disorder, said, 'I think I am ill from bad smells which come down the chimney from Miss —— rooms.' She shortly developed cancer of the stomach and liver, of which she died. There was no history of cancer in the family. In the house on the other side of the one in which the first patient lived, but with which there was no communication by the chimney, I had a case of scirrhus of the stomach. The wife of the latter patient also died of cancer of the rectum, about two years after her husband. In another house, not in the same neighbourhood, where the husband died of cancer of the liver, the wife had cancer of the rectum, and died about three years after the operation of colotomy. There was no history of cancer in her family. Such cases as these seem to prove the transmission of cancer by infection or contagion. I was sorry I could not attend on the evening of the reading of Mr. Ballance's paper, as I should have mentioned these cases at the time."

WEST LONDON POST GRADUATE LECTURES.

I.

Cases, with Remarks, from the Throat Department, West London Hospital.

By James B. Ball, M.D., M.R.C.P.

I have brought here to-day a few patients who are at present attending the throat department. I have not endeavoured to select cases of great rarity, but rather those which exhibit points of practical interest in diagnosis and treatment.

Case of Chronic Hoarseness.—This patient, a healthy looking girl, aged 21, has suffered from hoarseness for about four months. Her voice is weak, and has a somewhat rough, cracked sound. She has had some cough for about twelve months, and thinks she has lost flesh, though she is well nourished at present. There are no physical signs of disease in the chest. If we examine the larynx we see some slight congestion of the vocal cords. This is less than when I saw her first, three weeks ago. We also see that the vocal cords do not approximate completely on phonation. There is a distinct space left between them. There is evidently some functional weakness of the adductor muscles of the vocal cords.

So far then we have a case of chronic laryngitis, with functional paresis of the adductors. Our examination of the case is, however, not complete. We must examine the whole of the upper air passages, the nose, naso-pharynx and pharynx. The pharynx and naso-pharynx present nothing abnormal. On looking into the nose, however, even without a speculum, we can see that each passage is obstructed by a reddish mass lying just beyond the vestibule. With a speculum and probe we can make out that this mass is a freely movable, polypoid outgrowth, from the anterior part of the inferior turbinated body, somewhat raspberry-like in appearance. It is a well marked case of hypertrophic rhinitis. Probably there are other such hypertrophic enlargements on the inferior turbinals farther back, if we could get a view of them. She has a fair passage for respiration in spite of the hypertrophy, but she says that she breathes very noisily in her sleep, a pretty sure sign of impediment to nasal respiration. Now I do not say that the laryngeal trouble depends necessarily on the nasal condition. It may be that the two conditions are merely coincidents, but most unquestionably it may depend thereon, and in that case treatment of the nose may very materially aid recovery of the voice.

At present this patient is taking iron and strychnine internally, and uses the inhalation of firwood oil every night.

I intend to reduce the hypertrophied turbinal tissue, and I think the snare will be the instrument most suited for this purpose. Removal of the hypertrophic outgrowths from the turbinated bodies will probably aid the recovery of the voice, but in any case their removal is desirable on other grounds.

Case of Dry Pharynx.—This patient, a woman, aged 46, came to the throat department a fortnight ago, complaining of "dryness and thickness" of the throat, from which she had suffered, more or less, for years. On inspecting the pharynx the posterior wall is seen to be dry. The surface is covered with a distinct coating of dried secretion. If this is rubbed off with a mop of wool, the moist surface beneath is seen. Patients not infrequently complain of a feeling of dryness in the throat, and yet when the pharynx is inspected the surface is not dry. On the other hand, you will find in many cases a dry surface, as in this patient. Sometimes there is a very thin varnish-like coating of secretion, sometimes a more distinct dry layer such as this, sometimes a thick dry adherent crust will be found. I have seen it stated that a dry pharynx is common in subjects of diabetes and Bright's disease. My own observation does not confirm this. What I would ask you to remember is that, whenever you observe a dry pharynx, you should turn your attention to the nasal passages and naso-pharynx. In the great majority of cases you will find the cause there. The fact is that, in a large proportion of these cases, the dry coating is formed by morbid secretion trickling down the posterior wall of the pharynx, from the nasal or naso-pharyngeal region, secretion of such a nature that it tends to dry rapidly on the surface. This may happen in various affections of the nose, or naso-pharynx, in which a purulent or muco-purulent secretion is present with a tendency to dry, such as in simple ozæna, some other forms of chronic rhinitis, certain cases of diseases of the accessory sinuses, and certain cases of catarrh of the pharyngeal tonsil and its recesses (Tornwaldt's disease).

If you examine this patient's nose you will see that the passages are capacious, owing to the diminutive size of the inferior turbinals. There is some inspissated secretion in the passages. She states that formerly there was a good deal of discharge of thick fœtid secretion from the nose. It appears to be an old case of ozæna. You know that the disease which we call ozæna, or simple ozæna, commences usually in youth, at or before puberty. The characteristic symptom is the offensive odour produced by a morbid secretion, which decomposes rapidly and tends to become inspissated and to form

dry crusts in the nose. A more or less marked progressive atrophy of the mucous membrane characterises the disease. Although a very intractable complaint, the troublesome symptoms abate spontaneously, as age advances, and the fœtor and crust formation have often disappeared at forty-five years of age.

In the treatment of cases of dry pharynx, there is one remedy which will always give a good deal of relief, whatever the exact nature of the case may be, and that is the employment once or twice a day of a warm nasal wash. The following well-known formula does as well as any: sodii. bicarb., sodii. chlorid., boracis, āā ʒss., pulv. sacch. alb., ʒi. Misce, ft. pulv. A teaspoonful to be dissolved in a tumbler of warm water. This should be used with the nasal syringe, and some of the solution may be used at the same time as a gargle.

Lupus of the Nose and Pharynx.—This patient, a delicate looking girl, aged 21, first attended at the hospital in October, 1896, for lupus of the nose. There was a history of crusting and discharge from the nose for about a year previously. It was a case of primary lupus of the nasal mucous membrane, affecting the anterior parts of both nasal fossæ. There was no disease in the pharynx or larynx and no lupus of the skin. The nasal mucous membrane is commonly enough the first part to be attacked by lupus. The affected parts were well scraped, and they healed up with every appearance of cure of the disease. She came back, however, about three weeks ago with a relapse of the ulceration in the nose, this time extending to the skin of the vestibule, and on to the tip of the nose and the margins of the alæ. The affected parts were well curetted a week ago and are now cicatrising. There is some loss of substance at the edge of the left ala nasi, and a perforation of the cartilaginous septum. Perforation of the cartilaginous part of the septum is a frequent result of lupus, but you will rarely if ever find the bony septum destroyed by lupus, in distinction from syphilis, in which, as you know, the bone is frequently invaded. The principal thing, however, that I brought the patient here to-day for is, that you may examine the pharynx. You will there see typical lupus affecting the posterior wall, an uneven pitted surface, presenting somewhat worm-eaten appearance, with numerous red prominent lupus nodules. Now, when this patient presented herself three weeks ago I asked if she complained of her throat, and she said not. I was not, however, satisfied with this, and I examined the throat and found this condition. This exemplifies the painlessness of the condition, a very common characteristic of lupus of the throat. The larynx is at present unaffected, but it would be hard to promise that

it will not become affected. Lupus of the nose and throat is, like lupus elsewhere, a somewhat intractable complaint. You may get improvement or apparent cure, but relapses and outbreaks at fresh sites are always to be feared.

As internal remedies, cod liver oil is probably always advisable, and arsenic, given in full doses, seems in many cases to have a specially good effect. Locally, curetting the affected part is always useful, and the result is especially good in the nose. Lactic acid is a useful application. It should be applied on a firm mop of wool, and well rubbed in.

Case of Nasal Polypi.—This girl, aged 18, has attended the hospital on and off for the last three years for mucous polypi of the nose. She had already had polypi removed a year previously at another hospital. Both nasal passages were completely blocked with mucous polypi when I first saw her, and there was, moreover, a thick purulent discharge from both nostrils. I removed the polypi with the snare at several sittings, and got the passages pretty clear of the growths as far as one could see, but she returned again in seven or eight months nearly as bad as before. The same process was repeated with much the same result. I was not surprised at this, for I recognised it as a case that could, at best, only obtain temporary relief from simple removal of the growths. I then commenced a more radical form of treatment, and one from which we may expect a more permanent result. This consisted in the gradual removal, bit by bit, of the middle turbinated body on each side. You will see on examining the patient that there is very little of the middle turbinal left on either side. Moreover, wherever I saw a small commencing polypus growing I seized it with this small punch-forceps, together with as much as possible of the soft bone on which it was implanted. In this way I have cleared away every vestige of polypus I could reach, and a good deal of the ethmoid bone as well, and the removal of the middle turbinated portion of the ethmoid has enabled me to work at the origin of many of these growths which were otherwise inaccessible, I mean especially those growing in the middle meatus. Something like a cure has thus been brought about, something as nearly approaching a cure as we can expect in cases of this kind.

Cases of mucous polypus of the nose differ very much, and while some are fairly amenable to treatment by simple removal of the growths, others, like this, are very obstinate and intractable, and require a very radical treatment in order to bring about a prolonged freedom from the trouble. These growths, as you know, spring from the region of the nasal fossæ corresponding with the ethmoid bone. The chief seat

is the middle turbinated body and the walls of the middle meatus of the nose. They also grow from the superior meatus and superior turbinated body. They never grow from the septum, or inferior turbinated body. In some cases the growths are very limited in number and very local. There may be only one or two, and such growths solitary, or limited in number, may take their origin from one point only, not infrequently from the posterior part of the middle turbinated body. A solitary growth in this situation sometimes attains a large size, and may hang down into the pharynx. In such cases we often get permanent cure from removal of the growths provided they are completely removed. In other cases we may get good results from removal, followed by cauterisation of the base of the growth. In cases, however, such as this, where there is an extensive growth of polypi, accompanied by more or less disease of the ethmoid and suppuration of the ethmoidal cells, it is hopeless to expect more than temporary relief from simple measures. A free removal of the middle turbinal is necessary, and a thorough clearing out of the middle meatus, followed by opening up the ethmoidal cells, is the only treatment which will bring about a cure of the disease.

As regards the method of removal of mucous polypi, I think the snare is the most useful instrument. Some employ the galvano-caustic snare, but I know of no advantage that it has over the ordinary cold wire snare. After removal of all polypi of any size I prefer to deal with the small commencing growths, and any stumps that have been left, with this little punch-forceps, and if you nip up a little mucous membrane or bone with it, all the better. Of course there will be more bleeding, but the result will be more permanent.

There is one feature about this case to which I may call your attention. This patient had polypi first removed from her nose four years ago. She was then only 14 years old. This is earlier than they are usually met with. I have seen them as early as twelve. It is extremely rare to meet with them earlier than twelve or thirteen. After sixteen they are common enough.

VINEGAR AS AN ANTIDOTE TO CARBOLIC ACID.—The following method is recommended for the treatment of carbolic acid poisoning: wash out the stomach with a solution containing equal parts of vinegar and water, and then with water alone. The patient may then be stimulated by means of a small quantity of whisky and milk, or with hypodermic injections of strychnine.

POST-GRADUATE TUITION IN LONDON.

By C. B. Keetley.

It was proposed to give in each number of this Journal a full notice of the arrangements for post-graduate study in London, up to date. Strict impartiality was aimed at, and it was hoped that the secretaries and deans of hospitals and schools would supply us with the necessary information. They have responded with a readiness and a courtesy which we are glad to acknowledge. And this article, which has no counterpart in any other journal, has been well received and well noticed.

The London Post-Graduate Course.—Directed by a committee (President, Mr. Jonathan Hutchinson), it combines the following hospitals, viz., the Skin, Blackfriars; Bethlem; and the London Throat, Great Portland Street; with King's College Bacteriological Laboratory; the Parkes Museum of Hygiene; and Cleveland Street Infirmary, and the Institute of Preventive Medicine. There will be a "vacation course" in April, and the "summer term" in May and June. Courses can be taken out separately, and the fees are £1 1s., £2 2s. and £3 3s. at each institution, according to the number of lectures, &c. This does not include hospital practice, for which are charged fees extra, but moderate. The prospectus for 1898 is ready, and may be obtained of Dr. Little, 32, Harley Street, W.

Charing Cross Hospital.—Weekly lectures and clinical demonstrations, arranged in three courses of ten each. Two of these courses are given during the winter session, and one during the summer. Fee £1 1s. each course. Thursdays at 4 p.m. Beds, 180; in-patients, over 2,000. Registered medical practitioners not requiring a certificate of attendance, are admitted without fee to the practice of the hospital on application to the dean.

The next course of Post-Graduate lectures will commence on Thursday, May 5. Hon. Secretary, Dr. Willcocks.

West London Hospital.—Weekly demonstrations arranged in three courses of ten lectures each. Wednesdays at 5 p.m. Fee £1 1s. each course. Fees for hospital practice, £2 2s. per quarter extra, or £5 5s. per year, including all lectures and demonstrations. The practice of the hospital is free to medical men in practice in the district. A class in bacteriology may be formed during summer. Instruction in anæsthetics by the anæsthetists. Hours of visiting and operation, 2 to 5 daily. Beds 101; in-patients, 1,714. Two new wards

will be opened in June, making a total of about 150 beds. Clinical clerkships and dresserships. Special departments for diseases of women, eye, ear, throat and nose, skin, and for orthopædics. Hon. Secretary, Mr. Bidwell. Prospectus on application. (See advertisement.)

Royal London Ophthalmic Hospital, Moorfields.—May and June course, Monday at 1 p.m., Wednesday at 8 p.m. Fee £2 2s.; fees for hospital practice, perpetual, £5 5s.; six months, £3 3s.; and only members of the Post-Graduate Course may join practice for one month for £1 1s. Clinical assistancies. Clinical work begins at 9 a.m. Operations daily 10 to 1 p.m. Ophthalmoscopic and other classes, three courses yearly at 7.30 p.m.; next begins in May or June. Beds, 100; in-patients, 2,184. Secretary, Mr. Robert J. Newstead.

Hospital for Consumption, Brompton.—Summer course of lectures and demonstrations, April to June, Wednesday at 4 p.m. Clinical assistancies (out-patient), attendance in each twice a week at 12 p.m. Clinical clerks (in-patient), twice a week, 10 a.m. to 12.30 p.m., and attendance afternoon of their physicians, three or six months. Fees inclusive, £1 1s. one month; £2 2s. three months; £5 5s. perpetual. Beds, 321; in-patients, 1,595. For forms, &c., apply to Secretary, Mr. W. H. Theobald.

St. Peter's Hospital for Stone and Urinary Diseases, &c.—Clinical instruction in the wards daily. Out-patients, Monday, Tuesday, Thursday, 2 p.m.; Saturday, 4 p.m., also Monday and Wednesday, 5 p.m. Consultations and operations, Wednesday and Friday, 2 p.m. Beds, 26. Free. Secretary, Mr. Irwin H. Beattie. (See advertisement.)

Hospital for Diseases of Skin, Blackfriars.—In "London Post-Graduate Course." Next term, eight lectures. Tuesdays, 4.30 p.m. Beds, 10; out-patients, about 360 a week.

St. John's Hospital for Diseases of the Skin, Leicester Square, W.C.—A course of lectures followed by clinical demonstrations will be given during the next three months on Thursday evenings at 6 o'clock, commencing February 24, 1898. Fee for the course, £1 1s. Beds, 46. Entries to be made with the Superintendent, or with the Lecturer. Apply for particulars to Mr. J. Dunlop Costine, Superintendent.

Throat Hospital, Golden Square.—Lectures and demonstrations "in the winter season." Fee, £2 2s. the course. Dates in medical journals. Fees for practice (including lectures), £3 3s. per quarter; £5 5s. per half year. Clinical assistancies, senior and junior. Attendance at 2.30 p.m.; Tuesday and Friday also at 6.30 p.m.; Beds, 28.

London Throat Hospital, Great Portland Street, W.—Monday,

8 p.m., £1 1s.; hospital practice, one month, £1 1s.; three months, £2 2s.; perpetual, £5 5s.

The Victoria Hospital for Children.—The Medical and Surgical Staff propose to give a course of lectures upon "The Diseases of Children." The lectures will be delivered in the Board Room of the Hospital every Thursday afternoon at four o'clock, and each will be followed by a demonstration of cases. Practitioners and students of medicine are invited to attend. Syllabus to be obtained from Mr. D'Arcy Power, 10A, Chandos Street, Cavendish Square, W.

Bacteriological Laboratory, King's College.—In connection with the "London Post-Graduate Course," a course of lectures and practical work, Friday 3 to 5 p.m. Fee, £3 3s. Other arrangements at this laboratory include "a complete course" daily, 10 a.m. to 5 p.m. Fee, £5 5s. Evening classes throughout the year, Monday 7 to 9 p.m. Fee, £3 3s. Private study, one month, £5 5s.; laboratories also open for research. For prospectus and further information apply to Professor Crookshank, Director, or to Mr. Walter Smith, Secretary, King's College, Strand, W.C.

British Institute of Preventive Medicine.—Laboratories open from 10 a.m. to 6 p.m. Instruction in bacteriology, bacteriological chemistry, hygiene, and in practical photomicrography. Fee, full month's course, including re-agents, &c., £5 5s. Open for original research. Apply to Dr. Macfadyen, 101, Great Russell Street, W.C.

Parkes Museum (of Hygiene), 74A, Margaret Street, W.—A course if sufficient entries received, £1 1s.

Central London Sick Asylum, Cleveland Street, W.—Thursday 5.30, "London Post-Graduate Course" lectures, £1 1s. (L.P.G.C.).

There are a few other special hospitals at which special courses are arranged for graduates. All which have the kindness to supply us with particulars, will, in future numbers, receive a fair and careful notice.

Mr. Hutchinson gives clinical demonstrations at his museum, Park Crescent, Wednesday afternoons. Free.

All the great hospitals to which schools are attached are glad to receive visits from graduates, but the latter have necessarily, except at isolated visits, to give way to the regular students and undergraduates. The days and hours of attendance and of the principal operating days are given in the weekly journals.

The museum and library of the Royal College of Surgeons are open daily, and access is readily obtained to them by British, American and foreign graduates and diplomats; Secretary, Mr. Trimmer; Librarian, Mr. Gros. Special

permission is required to visit the museum on Friday and Saturday. Library hours 11 a.m. to 7 p.m. (to 1 p.m. on Saturdays). Museum hours 11 a.m. to 4 p.m. till February 28 (to 5 p.m., March 1 to August 21). The excellent library of the British Medical Association at 429, Strand, is open to members all day. There is a Book Club in connection with the West London Medico-Chirurgical Society.

MULTIPLE NEURITIS FOLLOWING INFLUENZA.—Allyn, writing in the *Journal of the American Medical Association*, July 24, 1897, reports several cases of multiple neuritis following attacks of influenza, and from these and a study of the literature of the subject he reaches the conclusion that influenza, like other infectious diseases, may be followed by neuritis and multiple neuritis. One sex does not seem to be more liable to this complication than the other. It occurs most frequently in persons between the twenty-fifth and forty-fifth years, and appears during convalescence in a few days, or two or three weeks after the attack of influenza has subsided. It may present sensory, motor, vasomotor, or trophic symptoms, or all combined; but sensory and vasomotor symptoms are more prominent than in diphtheria and some other causes of multiple neuritis. In the great majority of cases recovery ensues, both as regards restoration of function and power, as well as regards life. Recovery does not usually take place in less time than four weeks, and may be delayed for months. Treatment should consist first in absolute rest in bed. Anodynes must be given in sufficient doses to relieve pain, when that is a prominent symptom. Morphine hypodermically may be necessary, but may be often replaced by codeine. The antipyretic anodynes are insufficient in safe doses if the patient has pains for many days. Cinchonidine salicylate is distinctly valuable, especially when the pain is not of the greatest severity. At a later stage potassium iodide and mercuric chloride in small doses are helpful. When the pain is seated in an extremity firm pressure with a flannel bandage yields great comfort. Blisters over the painful nerve trunks when they are superficial are also valuable in relieving pain. Close watch must be kept on the action of the heart and the character of the breathing. In most of the fatal cases death results through paralysis of the diaphragm. The closest attention must be given throughout the course of the case to the nutrition of the patient and to the condition of the skin, especially over portions of the body exposed to pressure. As far as possible the stomach should be reserved for food. Medicines in these cases act better when given hypodermically, and the stomach is less likely to be deranged. This caution applies especially to the giving of anodynes.

The Mirror of Practice.

A CASE OF ANGINA PECTORIS, WITH REMARKS ON THE TREATMENT OF THE DISEASE BY VASO-DILATORS.

By Charles W. Chapman, M.D., M.R.C.P.

Physician to the National Hospital for Diseases of the Heart.

T. C., aged 50, an organist, was admitted to the hospital on May 4, 1896, complaining of pain in the front of the chest, principally the lower half of the sternum, which spreads rapidly to the left side, through to the angle of the left scapula, down the left arm to the finger tips. The first attack was two years ago, which was followed by slight paroxysms nearly every night. The last three months the attacks have been more frequent and severe, coming on both day and night. They are provoked by the least exertion or excitement; even a puff of cold air is sufficient to bring on terrible pain.

He had rheumatic fever at 24 years of age and at 44, the latter illness having kept him in bed for twenty-six weeks.

He is a large, well-built man of sallow complexion. The area of heart dulness could not be well defined owing to some emphysema; the action of the heart is feeble and heaving, apex beat ill defined; there is recession of the intercostal spaces at the apical region during systole. The heart sounds are faint, but a soft systolic bruit is heard at aortic and mitral regions, and a diastolic over the whole sternum. Pulse regular, full, and rapidly collapsing. Liver not palpable; lungs inflate well and breath sounds good. Urine normal.

The treatment consisted of tinct. convallaria, sp. etheris nitrosi and strychnine, one drop of liq. trinitrine to be given immediately an attack comes on. Diet light, no stimulants. Record was kept of every attack, the length of its duration, and the special vaso-dilator given.

An attempt was made to estimate the average duration of the paroxysms under the effects of nitro-glycerine, nitrite of amyl and erythrol-tetra-nitrate respectively, but not only was the frequency of the attacks dependent largely upon the visits of the patient's wife and the news she brought, but their intensity and length of duration were influenced also by the emotions. The notes, however, show clearly that the erythrol had the effect of lengthening the intervals between the attacks sometimes to the extent of four days.

In this patient there was aortic regurgitation with a dilated left ventricle, and probably an adherent pericardium. He was

of the neurotic type, coupled with unflagging energy, so that he kept up his organ and choir work longer than he should have done.

In comparing the merits of the three remedies referred to, one is forced to confess that each drug is the best for its own particular purpose. When the attacks are amenable to nitroglycerine, then with ♏i. of the 1 per cent. in tabloid form in his pocket the patient always has his remedy; failing a satisfactory result from two or three of these, amyl nitrite inhalation from a crushed glass capsule forms a second line of defence. These two remedies act promptly, but the effect wears off in from half an hour to an hour, hence a good night cannot be assured by them, and it is here that erythrol-tetranitrate comes in for a dose (gr. i. and upwards) at bedtime, and gives respite from pain for four hours.

The doses of each remedy should be the minimum at first and increased in amount and frequency as the case demands. This patient, who has been doing his work (organ excepted) since he left the hospital three years ago, takes an unlimited number of tabloids, and sometimes a dozen amyl-nitrite inhalations daily, and erythrol every night, without in the least degree injuring his health.

For the successful treatment of angina pectoris all the organs should be examined, for no detail is too trivial to be passed by in the management of this painful disease.

A CASE OF THE MORPHIA HABIT, WITH REMARKS.

By Seymour Taylor, M.D., M.R.C.P.
Senior Assistant Physician to the West London Hospital.

This condition is more common than one would suppose, and although the victims of the morphia habit are much more numerous in France and in America than in our own country, still here we have many sufferers. In my own practice I have notes of seventeen cases; and as they all applied to me in piteous terms to help them to get rid of this terrible habit, it may be of some interest to the profession if I briefly relate a case in which the "cure" was carried out under my care and observation, and with the faithful co-operation of the patient's family practitioner.

Mr. C. J., aged 41, a man of means, but with no occupation, had been the subject for some six or seven years of severe abdominal pains, the nature of which was always so obscure as to compel frequent consultations with different

physicians; and even now the cause of the pains is a matter of some dispute. He was relieved, after all other remedies had failed, by hypodermic injections of morphia, which were carefully and sparingly administered by his usual medical attendant, Dr. Hairsine, of Hook, near Surbiton. The patient soon learned how to use the hypodermic syringe for himself; and strange as it may appear, he had little or no difficulty in purchasing the instrument, and also the hypodermic solution of morphia. It is not necessary to enter into details as to the daily quantities of the drug which he administered to himself, but I may state that he never had less than 20 minims of the hypodermic solution (equal to 2 grains of morphia), and often took as much as 2 drachms (equal to 12 grains) in the twenty-four hours.

This state of things had been going on for four years. When I first saw the patient I found a thin, anxious, yet intelligent man, with apparently no aim or object in life—a man who was lethargic, unfit for any occupation, and who would dismiss the discussion of any subject, no matter how important, with a weary, yet petulant gesture, as though he had no time nor desire to attend to such affairs. Yet he was terribly anxious "to be rid of his devil," as he graphically termed his ailment, and expressed his willingness to place himself unreservedly in our hands for treatment.

The following short description of our method may not be uninteresting:—

We kept him in his own bed-room, as I am adverse to placing such patients in any home or asylum. I find it best that the patient should not feel that he is under any forced restraint, such as a private home or retreat might imply. All carpets and unncessary articles of furniture were removed from his room, together with his portmanteaux and clothes, lest any of the drug should have been secreted therein. Two trustworthy male attendants were secured—one for the night watch, the other for the day time. Each one was strictly forbidden, when on duty, to leave the patient for a single moment. He had a carefully prepared and comfortable bed, also a couch on which he could lie when tired of his bed.

We discussed three plans of treatment: (1) to take the drug away from him at once, and entirely; (2) to take it away from him gradually, by diminishing the amount of morphia daily until he could sleep without it; (3) to take it away, and substitute some other drug, such as hyoscyamine, bromide of ammonium, or other sedative.

As the patient's heart and other organs were quite free from organic disease we determined on adopting the first plan, and taking the patient into our confidence, he readily acquiesced in our treatment.

It would be wearisome to relate in detail the difficulties we had, and the scenes which Dr. Hairsine had to go through with him. I will, however, briefly relate the principal symptoms. He slept fairly well for three hours during the *first* night. This is in accordance with my experience of such cases. Towards the evening of the *second* night he began to get restless. He had a return of his old pains, he had "fidgets" in his lower limbs, he complained bitterly of formication of skin on the body generally—trunk, limbs, face and scalp. He had lost all appetite for food. He begged for a small dose of morphia, but this was firmly yet kindly refused. He passed a terrible night, tossing from one side of the bed to the other; he upbraided his medical attendants, he refused food, and he required all the tact and patience of the night nurse to keep him in his room. Towards morning he quieted down a little, but the record sheet showed that he had not had five minutes' sleep during the whole night. During the day-time he was quieter. He was soothed by the sight of his garden, and by the familiar sounds of the street and neighbourhood. Yet he had bouts of restlessness, but these in a way were relieved by massage of his limbs, and by occasionally being read to from some interesting journal or book. The *third* night was the most terrible one which he experienced. Continually restless, he was in and out of bed every ten minutes; one minute trying to find relief by changing from one side of the bed to another, then trying to sleep on the couch, and pacing the room at intervals. He threatened his attendant, he used abusive and foul language, he ordered his doctor to be summoned in order to liberate him from his purgatory, and, in short, he passed such a night as few would care to witness and none to undergo. Nevertheless, he slept one hour, between eight and nine o'clock in the morning.

From this date he was practically cured of his craving, but he had symptoms which were alarming. The pulse, which prior to treatment was full and somewhat high in tension, became extremely slow (56), and almost dicrotous. The first sound of the heart was so feeble as to necessitate the administration of nux vomica (mx. of the tincture every three hours), and he was becoming exhausted, not only from want of sleep but from want of food.

Further, Nature began to reassert herself. The secretions, which hitherto had been locked up by the influence of the morphia, began to flow, and physiological functions, hitherto in abeyance, were resumed. That is to say, he had urgent vomitings of bile and gastric juice; he had severe diarrhœa; the skin, which up to now was harsh and dry, was bathed in

profuse sweat; he had violent sneezings; the bladder was irritable, and called for constant relief by micturition; yawning was frequent and irritating and was accompanied by great flows of saliva. Yet his mental condition was calmer, and he derived much benefit from warm baths, which appeared to soothe him.

The *fourth* night he slept continuously for four hours, and awoke considerably refreshed.

From this date he made an uninterrupted recovery, except for a slight relapse on the ninth day, when he again implored for a small dose of morphia, as he imagined that "he had not slept a wink" during the previous night, although the record sheet showed that he had had five hours' good slumber at intervals.

Subsequently his appetite returned, the gastro-intestinal functions resumed their normal states, and he somewhat rapidly gained flesh.

A month after the date of commencement of our treatment we were able to send him a sea voyage to a warmer latitude, and on his departure he expressed his great gratitude to his doctors and his attendants, at the same time avowing his fixed determination to never again seek for the drug which had enslaved him. I hope his fortitude may be permanent.

The above brief description is wanting in many details, but brief as it is I trust that it may be of some use to other practitioners, in showing that morphia may be taken from the most confirmed victim without serious danger, although I by no means affirm that every case of morphinism can be similarly treated. There are in many cases conditions which demand different or modified methods of treatment.

SCARLATINA WITH ERUPTION LIMITED TO THE FACE.—Lemoine reports to the Société Médicale des Hôpitaux twenty-three cases in which the eruption was exclusively limited to the face. He referred to cases of a similar nature recognised by Braun as an epidemic in adults in Fürth in 1840. That the cases were truly scarlet fever was established beyond doubt. The patients presented themselves to the hospital suffering from angina, with fever and redness of the face. The fever fell, but the redness continued, and was shortly followed by a more or less abundant desquamation. A few of the cases afterwards developed albuminuria, anasarca, and symptoms of uræmia. Lemoine considers the cases formed a transition stage between the anginoid scarlatina and scarlatina with general eruption.—*Le Progrès Médical.*

Reviews and Notices of Books.

THE TALLERMAN TREATMENT.[1]

In this book are grouped the various diseases which have been submitted to the above treatment; clinical notes by qualified practitioners which have appeared in the journals have here been brought together, thus enabling the reader to form an opinion as to the merits of the invention.

The success that has followed the use of superheated dry air baths is specially noteworthy in cases of rheumatoid arthritis and gonorrhœal rheumatism, which are proverbially rebellious to ordinary therapeutic measures.

Stiffness of joints after tuberculous and other inflammatory conditions are among the most troublesome cases we have to deal with, and many such are reported as having been cured or remarkably relieved by the Tallerman treatment.

Case 1, p. 22, is certainly one to be proud of, and it deserves the number of photographs with which it is illustrated. Case 19, p. 35, is that of a pianist who had rheumatic arthritis to such an extent that he was unable to follow his profession after three years' ineffectual treatment by drugs and visits to Bath and Aix. He had the superheated dry air baths, and in three months he was able to accept professional engagements.

It is not claimed that the treatment has any marked beneficial effect upon cases of organic heart disease, though some of these have been temporarily relieved; but it is important to note that the existence of cardiac complications is no bar to the use of the baths.

We would suggest that in any future edition Case 13, p. 111, should be omitted; the manner of its narration and the absence of professional verification introduces an element of incongruity into the long list of medically authenticated cases.

The book is well got up, is liberally supplied with photographic illustrations, and undoubtedly fulfils its purpose of describing with all the necessary detail the method of the Tallerman treatment, about which information of late has been frequently asked for.

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[1] "The Tallerman Treatment by superheated Dry Air in Rheumatism, Gout, Rheumatic Arthritis, Stiff and Painful Joints, Sprains, Sciatic and other Affections." Case notes and medical reports, with numerous illustrations. Edited by Arthur Shadwell, M.A., M.B.Oxford, M.R.C.P.London: Baillière, Tindall & Cox, King William Street, Strand, 1898.

LEWERS ON THE DISEASES OF WOMEN.[1]

THIS work has been before the profession for some years and is widely read both by students and practitioners. Within a moderate compass a very complete account is given of the diseases peculiar to women. A feature of the book is, that "numerous illustrative cases have been inserted," and we agree with the author that they are "a considerable help in learning the subject."

In the present edition the most recent advances in our knowledge of gynæcology have been pointed out. We think that the author's description of, and advice as to the best methods of dilating the uterus under different circumstances are excellent, but we regret that he has not stated any method of sterilising tents. We gather from what is said about the catheter that the author recommends that the urethral orifice should be thoroughly exposed and washed with an antiseptic lotion and that the catheter should then be passed by the aid of the sense of sight and not by that of touch. This, which is so opposed to the old-fashioned method, might, we think with benefit, be more clearly insisted upon.

A good description is given of most of the modern methods of dealing surgically with uterine fibroids, but no mention is made of the methods of removing these tumours through the vagina as practised by Doyen and other French gynæcologists.

The author is one of the few gynæcologists who prefer supra-vaginal amputation of the cervix (as recommended by Schröder in 1878) to total extirpation of the uterus for early cases of carcinoma of the cervix. For controlling the hæmorrhage during and after vaginal hysterectomy the author relies entirely on clamping the broad ligaments. This method is largely used in France and if properly carried out has, to our mind, several important advantages over the ligature.

There is a good description, with plates of the microscopic appearances, of that interesting and most modern of diseases "Deciduoma Malignum," and good reasons are given for the opinion that "pregnancy is not an essential antecedent for the occurrence of the disease."

We notice that under the heading of Extra-uterine Gestation no mention is made of Clarence Webster's observations on the formation, under such circumstances, of a tubal decidua.

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[1] "A Practical Text-book of the Diseases of Women," by Arthur H. N. Lewers, M.D.London, Obstetric Physician to the London Hospital, and Joint Teacher of Practical Obstetrics in the London Hospital Medical School, &c. Fifth edition, with 174 illustrations, four coloured plates, and 71 illustrative cases. London: H. K. Lewis, 1897.

With reference to the treatment of this condition the author expresses the following opinion:—"The cases in which laparotomy is justifiable are especially those where the symptoms and signs make the nature of the case clear, and where the rupture has only occurred very recently, a very few hours before she is seen—where also, although the hæmorrhage has been serious, still the condition of the patient is yet far from desperate. Even then one cannot avoid the conclusion that many such cases would recover well without operation. There is no doubt a widespread belief that most cases of extra-uterine pregnancy require abdominal section. Nothing could be more erroneous; and if such were to be the rule of practice, it would have been better for the patients if the pathology of extra-uterine pregnancy had remained in obscurity. These remarks do not apply to operation before rupture of the tube." Though this view will not, we imagine, be accepted by many, we cannot help thinking that the author is right and that he has done good service in stating his opinion.

The chapter on minor displacements of the uterus is most excellent.

ALDERSMITH ON RINGWORM.[1]

THIS, the fourth edition of Dr. Aldersmith's well-known monograph, is well brought up to date in every respect, and it certainly constitutes, in our opinion, the best and most comprehensive work on the subject that has been as yet published in this or any other country. In the first chapter the author gives us a short historical account of ringworm from the time of Willan up to the present, as well as an especially excellent *résumé* of the recent important researches of Sabouraud and others in reference to the plurality of the ringworm fungi. In common with all other competent observers, at any rate, in this country, he accepts and confirms in the main M. Sabouraud's views, and from clinical experience he is convinced that the different forms of tinea as described by Sabouraud are absolutely distinct, and due to different forms or species of fungi. Questions of etiology and diagnosis are then fully discussed, and practical directions given for the microscopical examination of cases.

A large part of the volume—no less than five chapters—

[1] "Ringworm and Alopecia Areata, their Pathology, Diagnosis and Treatment," by H. Aldersmith, M.B., F.R.C.S. Fourth Edition. London: H. K. Lewis, 1897.

is devoted to treatment, and nearly every method that has ever been proposed is described or mentioned. Like all dermatologists who have had much to do with the disease, Dr. Aldersmith admits that there is as yet no royal or certain cure for *all* cases of ringworm, in spite of the new remedies which are so often being confidently brought forward by observers of comparatively limited experience. As he says: "It is not new parasiticides which are required, but some trustworthy means of getting them into contact with the deeply situated fungus," and, we may add, of so impregnating the hair follicle that it may become an impossible nidus for the growth of the fungus.

Dr. Aldersmith is still a strong advocate for the croton oil treatment, concerning which he gives elaborate details. We must confess that we cannot altogether endorse his opinion as to the advantages of that method, for not only have we seen cases uncured which had been for long vigorously treated in the manner he describes, but because we consider it a treatment at the best most troublesome and often very painful. In our hands many old standing cases have been cured by keeping the scalp saturated, in and around the patches, with some antimycotic fluid, by means of an atmospheric pressure apparatus. Dr. Aldersmith alludes to this method, but he is not quite accurate in supposing, as he seems to do, that the use of creasote is an essential feature. We fully agree with his remarks on the use of formalin in ringworm. After an extended trial we have discarded it, not only on account of the great pain and scarring which may be caused, but because it has failed to cure many cases.

The final chapter of the work treats of alopecia areata, which the author considers to be an atrophic disease of the hair, not parasitic and not contagious. In other words, he does not accept M. Sabouraud's views as to its microbic origin. Many of the supposed instances of the affection spreading in schools, &c., he believes to be really cases of so-called "bald ringworm," which is undoubtedly trichophytic; and he also points out another source of fallacy in the fact that an "artificial" alopecia areata may be sometimes induced by applications of "gas water," and some other lotions. The whole subject is intricate, and we must admit that it is really at present *sub judice;* the arguments he adduces in support of his theory are, at any rate, well worthy of consideration. He has little faith in germicides in the treatment of alopecia, and when their effect is satisfactory it is only, he believes, through their action as local stimulants.

In conclusion, although we cannot agree with all his views, we must congratulate Dr. Aldersmith on his giving to the

profession such a very practical and valuable work. The plates of illustrations, moreover, of the various fungi are true and excellent representations.

PAGET ON AMBROISE PARÉ.[1]

THE main impression left upon the reader at the end of the book is that Mr. Stephen Paget occupies the not unenviable position of being one of the masters of light biographical exposition.

We are not aware of the motive that induced the author to select the life of Ambroise Paré for the exhibition of this art, but we can well understand it may simply have been the interest that must always attract a surgeon when he surveys a past epoch in the science to which he has devoted himself.

But the life of Paré doubtless has a wider sphere of attraction than this, for it contains the story of an uphill struggle with the general problems of a man's life who rose honestly to a position of importance among his fellow creatures. Hence, so long as man is the chief object of study to man the book will possess a general, as well as a special, influence upon its readers.

From a professional standpoint we are compelled to pity Paré and his patients, but our pride in the advance of surgical procedures since his day is to a certain degree lowered by the reflection that when a corresponding period has elapsed from our time we ourselves will be objects of pity to the surgeons of futurity. For there can be little doubt that some of our most cherished principles will be shattered by our descendants as we have raised the ideas of our ancestors.

Nevertheless the fact will remain the same that the eminence upon which future surgeons will stand could not have been so high if Paré and men like him had not chiselled out some of the steps that led to its summit. Upon reading Mr. Stephen Paget's bright and charming description we can readily forgive a member of the public for congratulating himself that he did not suffer in Paré's days, and we can also forgive a certain feeling of self-satisfaction that must rise in the mind of a surgeon who lives at the end of the 19th century.

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[1] "Ambroise Paré and his Times, 1570-1590," by Stephen Paget. Illustrated. London and New York: G. P. Putnam's Sons, 1897.

HOLTHOUSE ON CONVERGENT STRABISMUS.[1]

THIS monograph on convergent strabismus is a praiseworthy attempt to throw light upon some of the debated points in connection with the subject. The author holds that there are two causes at work in the production of convergent strabismus; one is the difficulties created by congenital abnormalities of the eyes themselves, and the other consists in a disturbance of the co-ordinating centres of the ocular movements set up by external irritation of the nervous system. While the former will produce, as he claims, squint in those who suffer from a high degree of hypermetropia and decided relative amblyopia, the latter will account for its development in those whose ocular conditions are practically normal. Concerning the much-debated question of the cause of the amblyopia present in certain squinting eyes, he favours the view that the amblyopia is not developed as the result of a long-continued habit of "suppression" of the false image, but that it is a congenital defect. The chapter in which this part of the subject is discussed is well worthy of perusal. So far as the treatment of convergent strabismus is concerned, there are less grounds for differences of opinion among authorities; there is consequently but little, if any, scope remaining for originality in this regard. Nevertheless Mr. Holthouse gives a plain and concise description of the methods adopted by himself, both as to the use of spectacles and the advisability of operative measures.

Upon the whole it is evident that the work is the result of much care and thought, based upon observation and experience, and as such it must be regarded as a useful contribution to the subject of which it treats.

ANATOMICAL LECTURE DIAGRAMS.

MESSRS. JOHN BALE, SONS & DANIELSSON, LTD., have sent us a copy of their Anatomical Lecture Diagrams. These consist of a series of twelve sheets which are conveniently bound together on a roller. They are intended for use in elementary classes, such as those of Ambulance Lectures. On the whole they can be recommended for such a purpose; but we have to confess a little disappointment as to some of the details. For instance, we do not see why all the bones

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[1] "Convergent Strabismus and its Treatment." An Essay, by Edwin Holthouse, M.A., F.R.C.S., Surgeon to the Western Ophthalmic Hospital. London: J. & A. Churchill, 1897.

should not be dealt with in consecutive sheets, instead of the skeleton being figured in Sheet No. 1 and the rest of the osteology in Sheet No. 8. We are, however, particularly pleased with the diagrams representing the viscera, and also of those showing the chief points in some of the more ordinary fractures.

THE LIBRARY REPORT.

MEMBERS can obtain books from the Library by applying at the Hospital to the Hon. Librarian, or in his absence to the Library porter.

The *Book Club* in connection with Mr. H. K. Lewis' Library is open to members of the Society; subscription 11s. 6d.

The Library is greatly hampered by want of proper accommodation.

BOOKS RECEIVED.

From the PUBLISHERS.

The Geographical Distribution of Disease in Great Britain, by Alfred Haviland. Second Edition. London: Swan, Sonnenschein and Co., 1892.

The Tallerman Treatment by super-heated Dry Air. Edited by Arthur Shadwell, M.A., M.B.Oxon, M.R.C.P. London: Baillière, Tindall and Cox, 1898.

Clinical Methods: a Guide to the Practical Study of Medicine, by Robert Hutchinson, M.D., M.R.C.P. and Harry Rainy, M.A., F.R.C.P.Ed., F.R.S.E. London: Cassell and Company, Limited, 1897.

Diseases of the Nervous System: a Hand-book for Students and Practitioners, by Charles E. Beevor, M.D.Lond., F.R.C.P. With illustrations. London: H. K. Lewis, 1898.

Premature Burial: Fact or Fiction? by David Walsh, M.D.Edin. London: Baillière, Tindall and Cox, 1897.

Maternal Syphilis: including the Presence and Recognition of Syphilitic Pelvic Disease in Women, by John A. Shaw-Mackenzie, M.D.Lond. London: J. and A. Churchill, 1898.

The Medical Examination for Life Assurance, by F. De Havilland Hall, M.D., F.R.C.P. Bristol: John Wright and Co.; London: Simpkin, Marshall, Hamilton, Kent and Co., 1898.

Oral Surgery: by Edmund W. Roughton, B.S., F.R.C.S. London: J. P. Segg and Co.

NOTES ON NEW PREPARATIONS AND APPLIANCES.

Milk Sterilizer—Hawksley's Patent.—After a trial extending over two years we feel completely justified in giving a candid and sincere recommendation of Mr. Hawksley's form of milk sterilizer.

The inset accompanying this issue of the JOURNAL we would commend to the careful perusal of each reader, for we feel convinced that the sterilization of milk is a subject of the greatest importance to every one, rich and poor alike.

The special features which, in our experience, make this sterilizer so useful are the following :—

(1) *Its simplicity.*—So very simple is the apparatus, that after a short explanation it may be placed in the hands of anyone having the charge of hand-fed infants without risk of their not being able to manipulate it.

(2) *Its effectiveness.*—That it thoroughly sterilizes is shown by the fact that we have seen milk remain absolutely pure and unchanged for months after being capped and sterilized in the *bain-marie.*

(3) *Its comparative cheapness.*—We feel that no benevolent person could bestow a better gift on a mother striving to bring up her children without their natural food than this sterilizer. The immense saving of infant life and misery by its use can scarcely be measured. And the cost of the apparatus is but slight, so that it may be said to be within the reach of most.

(4) *Its great saving of labour.*—To have the whole of the feeds for an infant for the complete twenty-four hours, prepared and preserved intact, is indeed a boon, such that would not be easily dispensed with by those who have known otherwise.

The feeding of infants on sterilized milk should always, if possible, be carefully controlled by a regular weighing of the child. This may be most successfully accomplished by the weighing machine for babies which Mr. Hawksley has introduced.

Pepsencia—Fairchild.—We are much pleased with this preparation. We have tried it as a digestive agent in infantile dyspepsia at the tender age of four months. A dose of from 5 to 10 drops given after the child's meals, aids the digestion in such weakly children in a manner which is most satisfactory. Moreover, although so potent yet it appears to have no ill effects whatever, even when its use is long continued.

Colchi Sal Capsules. Betul-Ol—Kuhn.—In the last issue of the JOURNAL it should have been stated that the active principle—methyl salicylate—of these two preparations is obtained from Betula Lenta.

NOTES AND NEWS.

MR. BALLANCE'S paper on the "Transmission and Dissemination of Cancer," published *in extenso* on page 77 of the present issue of the JOURNAL, will be read with interest by all who have paid any attention to the subject of the etiology of malignant disease. But who now-a-days does not take an interest in cancer? It was the conviction that the Society generally would welcome a discussion upon the subject that suggested to me the desirability of bringing before the Council a resolution to the effect that such a discussion should be held. It will be in the remembrance of some members of the Society that we had a cancer evening on November 6, 1886, which attracted a large attendance. In Mr. Ballance's paper we have an interesting, careful, and able *résumé* of the latest facts and opinions bearing upon the etiology of the disease. I especially note that he is fully in accord with the belief that cancer is increasing. I made a somewhat exhaustive inquiry into this matter in 1882 (vide *British Medical Journal*, 1883), and I then came to the conclusion that the array of augmenting statistics of the cancer death-rate in the Registrar-General's Returns, could be explained on no other hypothesis than that of a real increase of the disease. Nevertheless, of course statistics are marvellous things with which to conjure. They can be made to prove anything, as we all know. That other figures, therefore, not taken from the office of the Registrar-General, should have been employed to prove that cancer is *not* increasing, is in perfect accord with the natural order of things. I mention this merely to show that a minority exists which disputes the reality of the augmenting death-rate from malignant disease.

BUT another minority exists in connection with the subject of cancer, and that consists of those who affirm that the disease cannot be of microbic origin. The general feeling, however, undoubtedly is now, that cancer is an infective disease, dependent upon some micro-organism—and Mr. Ballance shows plainly in his paper the evidence upon which this impression is based. But even if this non-microbic theory be viewed from the purely domestic aspect of sentiment, the question at once suggests itself:—What possible hope can there be of checking the virulence of the disease unless we can prove that it is parasitic in origin? If a "characteristic organism of cancer" be eventually isolated, then we may have hope that some antitoxin may be discovered by which

the virulence of the disease will be controlled. Short of this, however, there does not appear to be any possibility of the problem of its etiology being solved.

STILL, there is no disputing the fact that a micro-organism of cancer has not been discovered, for bacteriology has been drawn blank in the pursuit of a cancer bacillus. Quite possibly this may be due to the failure of present day bacteriological *technique*. Mr. Ballance alludes to innumerable cultivation media, of which a trial was unsuccessfully made. Perhaps the sole difficulty now is to alight upon a suitable medium in which the micro-organism of cancer will grow. In this connection it is of interest to recall that although the leprosy bacillus has been isolated, no one has ever succeeded in cultivating it. Possibly, then, it is the cultivation medium question which is stopping the way in the elucidation of the bacteriology of cancer.

THERE is, however, no doubt that as soon as malignant disease has been shown to depend upon a specific micro-organism, we shall have to modify considerably many of our present notions regarding cancer. Perhaps among the first of these to call for modification would be that which attributes to cancer a geographical distribution in England. Personally, I have never been able to bring myself to believe that the occurrence of cancer could be influenced by the climatic, geographical or geological *entourage* to be met with in the limited area of the British Isles. If in certain districts so-called cancer areas are shown by statistics to exist, it is difficult to comprehend that the prevalence of the disease must, therefore, be due to the local character of the soil and climate. The etiology of cancer is too complex a matter upon which to generalise. The problem of cancer dissemination cannot be determined by merely drawing inferences from statistics, and a blind acceptance of theories of the kind, however interesting, is more calculated to silence than to promote further and useful inquiry. Again, reflection would seem to suggest that just as tuberculosis is now known to be disseminated by the milk of infected cattle, so it may be possible that cancer in some similar way is conveyed to human beings. At all events, the possibility of this being the case should, in these days of scientific surprises, make us careful to reserve our judgment as to the explanation of the prevalence of cancer in the so-called cancer areas.

THE Cavendish Lodge, No. 2,620, met on February 16. Brothers Shepard and Pardoe were raised to the third degree, and Brothers Potter and Wells were passed to the second degree. Several visitors were present at the meeting, and at the banquet following an interesting account of Freemasonry in South Africa was given by Dr. Hartley, who replied to the toast of "The Visitors." Dr. Hartley, who holds an important position in Cape Town, is at present residing in England, and recently joined the West London Hospital Post-Graduate Course.

THE experiment of having the Annual Dinner earlier in the year than at the end of the session, happily proved to be quite successful. The festival was held on February 17, and about ninety members and guests were present at the Trocadero. The general agreement among those who took part in the reunion was that the dinner was one of the most successful which the Society has ever had, a fact upon which Dr. McCann, the senior Secretary, deserves hearty congratulations. The President, Dr. Potter, was in the chair, and ably discharged his duties. In the course of the evening a pleasing incident occurred. A congratulatory telegram was received from the President of the Royal Medical and Chirurgical Society, who was presiding over the dinner of that Society at another place. A reply from our President, reciprocating the good wishes expressed, was duly despatched. The following was the toast list: "The Queen," by the President; "The West London Medico-Chirurgical Society," by Dr. Symons Eccles, replied to by Mr. Swinford Edwards; "Kindred Societies," by Mr. Lawrance, replied to by the President of the Medical Society (Dr. Sansom); "The Guests," by Mr. Keetley, replied to by Canon Graham and Dr. Hillier (Johannesburg); "The President," by Mr. Bruce Clarke, replied to by Dr. Potter; "The Officers of the West London Medico-Chirurgical Society," by Dr. J. B. Ball, replied to by the Treasurer (Mr. Alderton), the Senior Secretary (Dr. McCann), the Junior Secretary (Mr. McAdam Eccles). Then something had to be said about the JOURNAL, in response to an irresistible demand.

THE Staff of the West London Hospital, with the kind assistance of many members of the Society and their friends, are arranging a Dance in aid of the funds of the Hospital, to be held at the Queen's Hall, Langham Place, on Monday, May 16, 1898. Her Royal Highness the Duchess of York has consented to be the Royal Patroness.

THE subject has often been mooted during the past few years that it would be expedient were a dinner to be arranged of the past and present members of the Staff of the West London Hospital—old House Surgeons and House Physicians, old pupils, and past and present members of the post-graduate course. The proposal has now assumed a definite form, and the dinner will be held on Thursday, May 26th, 1898, at the Trocadero. Those who have been engaged in the task of ascertaining the names of the members of the profession eligible to be present have been greatly struck by the number of physicians, surgeons, and practitioners who at one time or another have been officially connected with the West London Hospital.

OUR excellent Treasurer, Mr. Gunton Alderton, 82, The Grove, Hammersmith, desires me to remind those members of the Society whose subscriptions are still owing, that he is anxious to fulfil his duty of forwarding receipts for the latter at as early an opportunity as possible. There is a large number of subscriptions outstanding, and unless these are paid in before May 31 the Treasurer will not be in a position to show a good balance in hand at the end of the Society's financial year.

THE sclero-corneal section—no foozling—is the drive; then the iridectomy is the brassey shot through the green; next the division of the capsule is the short approach shot, and lastly the extraction of the lens is the "put"—down in four, which is bogey. Such is the operation for senile cataract expressed in terms of golf. Clearly any one desirous of being "one up" against bogey must be "down" without the iridectomy.

Mr. MCADAM ECCLES has been duly appointed my colleague, to succeed Mr. Bidwell. I have upon former occasions referred to Mr. Bidwell's invaluable work while he occupied the post of editorial secretary, and it is only true to say that the position is not an easy one to fill after the example which he has set. But Mr. Eccles has taken up the reins with ardour and a keenness which promises well, and personally I believe that a better appointment could not have been made.

THE Cavendish Lecture will be delivered by Mr. Howard Marsh on Friday, June 24, 1898. The title of the lecture is

"Growth as an Agent in (*a*) The Production (*b*) The Removal of Deformity." The occasion will be noteworthy as being the first upon which the Cavendish Lecture will have been undertaken by a member of the Society. Mr. Marsh was elected as long ago as the year 1883.

THE arrangements for the annual Conversazione to be held upon the same evening as that of the Cavendish Lecture, are already in a forward state. The Council have decided to engage for the meeting the Vestry Hall, Hammersmith, by which more space will be allowed for a much larger attendance of members than in previous years was possible, while more scope will be permitted for the advertisers' Exhibition, which has now become so important and popular a feature of the re-union.

I HOPE to be able to publish with each number of the JOURNAL in the future, space permitting, a Post-Graduate Lecture delivered at the West London Hospital. These lectures are especially designed to illustrate some practical point or points in medicine or surgery, and in furtherance of that design patients are shown whose cases bear upon the subject under discussion. I have for some time thought that the publication of these lectures, as opportunities offered, would add to the usefulness and the completeness of the JOURNAL, and I am glad to draw attention to the commencement of the series in the present issue.

P. D.

Notice.—All communications relating to the literary part of the Journal, books for review and exchanges, should be addressed to the Editor, 54, Wimpole Street, Cavendish Square, W. Applications for copies of the Journal, communications respecting advertisements, instruments, pharmaceutical preparations, &c., intended for notice, should be forwarded to the Editorial Secretary, 124, Harley Street, Cavendish Square, W.

THE

West London Medical Journal.

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Original Communications.

THE CAVENDISH LECTURE

ON

GROWTH AS AN AGENT IN (1) THE PRODUCTION AND (2) THE REMOVAL OF DEFORMITY.[1]

By Howard Marsh, F.R.C.S.

Surgeon to and Lecturer on Surgery at St. Bartholomew's Hospital.

Growth has been defined as the increase of a part by the addition of material like that already existing in it. In its simplest form growth may be observed in the enlargement of a crystal. If a crystal of alum sulphate, for example, is placed in a saturated solution of that salt, it gradually increases in size as more and more alum sulphate is incorporated in it. Another equally familiar example is the growth of a bone in a young animal. The tibia, for instance, becomes larger and larger by the addition of more and more bone to its length and thickness. When normal growth is examined it at once becomes apparent that it takes place in conformity to type. This is illustrated in a remarkable manner in the case of crystals. A crystal of alum sulphate, when it is perfect, is, whatever its size and at all stages of its progress from small to large, always octohedral. But, further,

[1] Delivered before the Society on Friday, June 24, 1898.

if such a crystal is broken and is then placed in its mother solution, the defect is repaired, and at length it is restored to its typical shape and becomes once more a perfect octohedron.

Here are casts of some crystals (No. 42B in the Museum of St. Bartholomew's Hospital) prepared many years ago by Sir James Paget to illustrate an experiment recorded by Jordan in *Müller's Archives*, 1842, page 46. A broken crystal of alum was placed in a solution of this salt, and in a few days "while the whole crystal had increased in size, the increase on its broken surface was proportionately so much greater than on any other, that the perfect octohedral form was

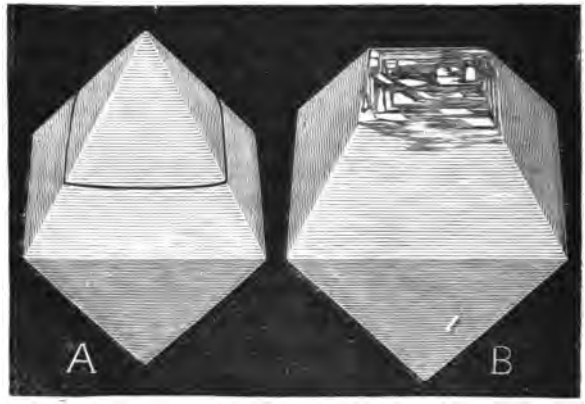

FIG. 1.—Repair of a crystal. A crystal of alum sulphate (*b*) was fractured at the level of the dark line shown on the other crystal (*a*). It was then placed in a solution of alum, and the part which had been broken off is seen to have been, in the course of a month, nearly reformed.

nearly regained." A few weeks ago, at my suggestion, Dr. Chattaway, in the Chemical Laboratory of St. Bartholomew's Hospital, selected two crystals of alum sulphate of the same size (fig. 1 (*a*) and (*b*)) and then, breaking off a large piece from one, marked the other to show the line of fracture. When placed in a solution of alum the broken crystal, growing in correspondence with its type, had within a month, to a great extent, as a glance at the two figures or at the crystals which I hand round will show, regained its original shape.

In studying growth in the vegetable and animal kingdoms

respectively, it is found that while its ultimate object is in both the same—namely, adaptation of the individual to its environment—an important difference may be observed. In plants the influence of type is comparatively limited; for there are numerous instances in which a plant, when its environment is changed, is able, as it grows, so far to adapt itself to the new conditions under which it is placed that it becomes modified in a remarkable degree. This is well seen when the land forms are compared with the water forms of the same amphibious species,[1] or when the habitat of a plant is changed from a cold to a hot climate. The castor-oil, for instance, which is an annual in England, becomes a tall tree in Malta; while M. Freyn states that *Beta maritima* on the cliffs of Istria grows in shrub-like form, with erect stems, bearing hardly any resemblance to our cultivated beet.[2] Again this capacity for adaptation to novel circumstances was graphically demonstrated by an experiment recorded by Dr. Lindley. A young willow tree had its crown bent down to the ground; this was covered with earth, and soon emitted an abundance of roots. The true roots were then carefully removed from the soil, and the stem inverted. The roots now became branches and emitted buds, and the tree grew ever afterwards upside down.[3]

In animals, on the other hand, the law of conformity to type exercises a much stronger influence, so that, although adaptive variation takes place in a series of generations, yet it is scarcely appreciable in the life of a single individual.

When at length the individual has attained its complete form and structure, and is thus in correspondence with the type which best equips it for the functions of its life, general growth, its purpose having been fulfilled, comes to an end. In man this stage has, generally speaking, been reached by about the twenty-first year when, as the phrase is, the individual "has done growing." Variations, however, in the directions both of deficiency and of excess may occur so that the normal stature is either exceeded or not reached. Hence giants and dwarfs. Or the variation from the normal may be limited to a single part. In such cases what has been termed

[1] "Origin of Plant Structures," by the Rev. George Henslow, 1895, p. 136.
[2] *Loc. cit.*, p. 190. [3] *Loc. cit.*, p. 180.

formative power or germinal capacity is in local excess, with the result that such specimens as these of so-called congenital hypertrophy of fingers and toes are met with. The middle finger of this hand is five times its proper bulk; and this is a cast of the foot of a boy of 13. The foot was twelve inches long and the instep eleven and a-half inches in circumference. The great toe was four and a-half inches long and had a circumference of six and three-quarter inches.

FIG. 2.—The shoulder and arm muscles of one of Professor Sandow's pupils.

Yet on closer examination it is observed that, after general growth has ceased, the capacity for further growth in many parts still exists in a latent form or in reserve, but ready, should the interest of the individual require it, to be brought into activity. This provisional capacity for the growth of individual parts or organs after general growth has ceased, is one of the most striking and valuable resources with which the individual is endowed. General growth adapts the individual to its environment under normal conditions: while latent growth serves a different purpose; it provides means by which a part is enabled to keep pace with the increased

demands which are made upon it, when either its own proper work is increased, or when some other part has become defective, so that, by its aid, the struggle for existence can still be maintained under circumstances which would otherwise in many cases soon lead to a fatal result. It is therefore in the highest degree protective or conservative. Thus such muscular organs as the heart, the large intestine, and the bladder grow stronger when they encounter abnormal resistance to the expulsion of their contents; and, to give minor instances, the epidermis thickens over points of increased pressure, and the cremaster grows into large fleshy bundles in cases in which heavy tumours, such as hydrocele or irreducible hernia, are present in the scrotum. And here is a photograph of one of Professor Sandow's pupils, whose muscles in the discharge of increased functions have grown to this extraordinary size (fig. 2). The growth of the uterus during pregnancy is yet another remarkable example.

And, in the second place, organs grow when vicarious functions devolve on them. For instance, one kidney, the other being absent or useless, may acquire twice its normal bulk. When one limb is paralysed or lost in a young subject, the opposite grows to an abnormal size, and thus acquires abnormal strength. Note, again, the growth, till then latent, which takes place in the arteries of a limb, when, after occlusion of the main trunk, a collateral circulation is established; or in superficial veins when the deep veins have become obstructed. And it is chiefly those organs and parts which are most essential to the welfare of the individual which manifest the largest share of this reserve power of growth; for instance, in such indispensable organs as the heart or a remaining kidney, the capacity for latent growth is much more considerable than it is in parts which are not essential to the maintenance of life, such as a hand or a foot; while the capacity for growth which the blood vessels hold in reserve, in order to maintain the vitality of a limb under very exceptional conditions, was recently illustrated by a case[1] recorded by Sir Thomas Smith, in which, when the femoral artery and vein, the profunda artery and vein, and the popliteal artery and vein were all simultaneously

[1] *St. Bartholomew's Hospital Reports*, vol. xxx., p. 223.

ligatured during the removal of a tumour in which they were involved, the enlargement by growth of collateral channels, both arterial and venous, was so considerable and so rapid that no serious embarrassment to the circulation occurred. Even in bone this reserve power of growth is very remarkable. Here is a skull, the holding capacity of which is at least three times the normal amount. It is from a case of chronic hydrocephalus. Growth took place in order to avert intracranial pressure, which, without it, must soon have led to a fatal issue.

I have entered upon these general, and, I am afraid, too fragmentary, remarks in respect to growth in order to introduce the immediate subject of the present lecture. In what follows I propose to direct attention to the two forms of growth which I have mentioned—that by which the stature of the individual is originally attained, and that which, till the occasion arises, remains in reserve—in their relation to surgery, with the object of showing that they are agents of considerable potency, which, according to the conditions under which they act, may either lead to deformity, or conduce in an important degree to its removal.

Growth producing deformity is met with when the influence of the law of conformity of type, which ought to regulate the process, is interrupted or inhibited by some other influence of a stronger kind. This state of things may occur under a variety of circumstances, and many examples can be easily named: I have already referred to cases of what has been termed congenital hypertrophy, in which parts grow in excess because they are endowed, not with the usual, but with an abnormal, amount of germinal power or formative capacity. Deformity from overgrowth, depending on an abnormal blood supply, is seen in those not very rare cases in which, owing to tuberculous disease of the knee, the growing ends of the femur and tibia are rendered more than normally vascular, and the limb becomes an inch, or, as I have seen it, two inches, longer than its fellow. The same result may follow inflammation of the shaft of a long bone, for instance of the tibia. Thus in chronic tuberculous osteitis, or in acute infective inflammation followed by necrosis, and attended with abnormal vascularity, continued over a long period, the bone may become as much as an inch and a-half longer than the

opposite. But the most remarkable example of deformity due to abnormal growth depending on increased blood supply, that I have seen, is furnished by Hunter's admirably ingenious experiment, in which the spur of a cock, which he transplanted from the leg into the much more vascular comb, grew to be six inches long (fig. 3.) The production of deformity when normal growth takes place under abnormal circumstances, is further illustrated in cases in which an injury of the lower end of the radius[1] has been followed by arrested

FIG. 3.—The head of a Maltese cock, into the comb of which a spur had been transplanted from the foot, and had grown into the spiral horn six inches long, shown in the drawing. Preparation in the Museum of the Royal College of Surgeons.

growth of the bone, and as normal growth has continued in the ulna, the hand has been pushed over to the radial side. A similar result is met with in the lower limb, and many examples have been recorded. Two years ago I saw a young married lady whose left tibia was three-quarters of an inch shorter than the right, and curved inwards just above the internal malleolus. The fibula was disproportionately

[1] This subject has been fully discussed by Mr. Jonathan Hutchinson, jun., in his able and instructive lectures at the College of Surgeons on Injuries to Epiphyses and their results.

long, so that its lower end, as the patient stood, was nearly an inch nearer the ground than its fellow. The external malleolus was prominent, and the foot was considerably turned in. The history of this case was that when the patient was 6 years old she injured her ankle by a fall—no doubt, as the result showed, separating the lower epiphysis of the tibia. Splints were applied, and in a few weeks she was walking naturally. Deformity, however, was slowly developed, owing to continued growth of the fibula, while growth of the lower end of the tibia had been arrested by the injury which had involved the epiphysial line. I removed three-quarters of an inch of the fibula just above the malleolus and divided the tibia, and was then able to place the foot in its normal position. Mr. Walsham lately operated for a similar condition with an excellent result. The deformity present before the operation is well shown in this cast. Some years ago I met with a case of great deformity of the lower jaw in a boy aged 9. The teeth, instead of being vertical were nearly horizontal, for during growth the jaw had been constantly drawn upon by a strong scar following a burn in the neck, and in which the bone was firmly imbedded.

Further examples of growth resulting in deformity with which all are familiar are met with in the spine and in the tarsal bones. In the spine, in scoliosis developing in early life, growth is checked by increased pressure in the concavity, and favoured by diminished pressure in the convexity of the curves, so that the bodies of the vertebræ become wedge shaped. In this specimen the vertical measurement of the bodies is in the concavity half an inch against an inch and a quarter in the convexity of the curve. In Pott's disease, when several of the vertebral bodies have been destroyed, the thorax, as growth proceeds, becomes deformed, for the ribs, jammed together at their posterior ends and so becoming fixed, grow almost straight forwards and lead to extreme protrusion of the sternum. In talipes equino-varus, when this deformity is left without treatment, the tarsal bones are altered widely from their original shape. In the knee again, in tuberculous disease, if the joint has long been considerably flexed, or, as I have seen in a case of septic arthritis followed by fibrous anchylosis in a position of flexion, the front part of the condyles

of the femur and of the head of the tibia grows in excess; and this change of shape may be so marked that it so far locks the bones as to become a considerable element of difficulty in the reduction of the deformity; while even if the deformity could be reduced the articular surfaces would be found so changed in shape that they would no longer admit of accurate coaptation in the extended position of the limb.

Growth, although it is in itself and in its surroundings perfectly normal, may produce a gradually increasing deformity. This is seen in the instance of scars. Thus vaccination scars produced in infancy grow to scale with the limb on which they are placed, and become three or four times their original size. The growth of a scar I lately saw illustrated in a distressing manner in a case in which a nævus on the face had during infancy been treated by vaccinating its margin at four different points. The inoculations had all "taken," with the result that when the patient was a girl of 18 she presented a group of four scars on her cheek, each of which was nearly as large as a threepenny piece. As a further illustration of the growth of scars I may mention a case in which, some twenty years ago, I treated a cutaneous nævus on the face of an infant 2 months old with strong nitric acid. The nævus was nearly round, and not more than a quarter of an inch in diameter. As this patient grew the scar grew also, and, a few weeks ago, I found, on examining it closely, that—though being quite flat and smooth and of the same colour as the surrounding skin, it hardly shows—it is seven-eighths of an inch in diameter, so that, growing to scale with the face, it has become nearly four times its original size.

I now pass on to consider growth as an agent not in the production, but in the removal of deformity. I have shown that in many cases when growth produces deformity, it does so under the influence of some condition which has supplanted or inhibited the action of the law of conformity to type. For instance, when growth continues in the ulna, after it has been arrested in the radius, in consequence of a fracture or other injury involving the epiphysial line at the lower end of this bone; or when the lower jaw has during growth been diverted from its typical shape by the dragging action of a scar in the neck. In such cases, however,

although the law of conformity to type is prevented from asserting itself by some more powerful adverse condition, it is merely suspended, but not abrogated; and is ready to resume its influence as soon as the agency which has opposed it is removed. It thus becomes a powerful corrective agent which surgery may often turn to very useful account.

Rickets.

The following case, which occurred in 1874, affords a good illustration. The bones of the lower extremities of a rachitic child aged 7, had during infancy yielded under the weight of the body, and become so deformed that I determined to operate on the tibiæ, and then on the femora. To straighten the tibiæ, which were sharply curved forwards in their lowermost third, I performed osteotomy, first on one side, and then, after an interval of some months, on the other, and removed a wedge-shaped piece of bone from each. In those days aseptic surgery had not been fully established. Both wounds suppurated, and from both tibiæ small scales of necrosed bone slowly separated. Under these circumstances twelve months passed, and during the greater part of this period the child was kept off his feet. Then, when the femora were examined, it was found that, in the course of these twelve months during which the weight of the body had been removed, they had, under the undisturbed influence of the law of conformity to type, regained their normal shape, and that any resort to osteotomy was entirely unnecessary.

Again, it is frequently observed that the limbs of rickety children which for a time are markedly deformed subsequently "grow straight." I have seen a considerable bend disappear in the course of nine months. In such instances the original deformity takes place because, when the bones are deficient in rigidity, the weight of the body is a stronger influence than the law of conformity to type. But when, a year or two later, the rickety state has become less marked or has entirely ceased, and when the bones have regained their natural strength, they gradually, without surgical interference, grow straight. But sometimes the rickety condition is present in a more aggravated degree. In such cases the bones under the weight of the body bend easily, and continue to do so for an extended period. And not only so, but growth itself is now

an agent to increase their distortion; the bones, in fact, "grow bent." Thus thwarted in its normal course, the law of type is found to assert itself in another direction. Unable, under the circumstances, to restore a curved tibia to its normal shape by ordinary growth, it calls forth the other

FIG. 4.—A rickety femur, showing a strong buttress in the concavity of the curve.

form of growth I have mentioned—that which is latent or in reserve—and by its means develops a buttress in the concavity of the curve, which effectually prevents any further bend—in other words, any further divergence from the normal type.

This reserve power of growth is present, it is interesting to notice, in a remarkable degree in plants.[1] Thus Hegler found that "the hypocotyl of a seedling sunflower, which would have been ruptured by a weight of 160 grms., bore a weight of 250 grms., after having been subjected for two days to a strain of a weight of 150 grms. The weight was subsequently increased to 400 grms. without injury. Leaf stalks of *helleborus niger*, which broke with a weight of 400 grms., were able to resist one of 3·5 kilogs., after having been subjected to a strain for about five days." This increased strength was acquired by the rapid growth of the mechanical tissues of the plant in the form of supporting buttresses.

It must, however, be observed that although such a buttress (fig. 4) prevents further deformity, it also prevents, or materially limits, the correction of the deformity by future growth, for it acts as a strong tie-beam, and often renders the curvature to a great extent permanent. These considerations have an important bearing on the treatment of deformities due to rickets. In their early stage these deformities can be easily limited or removed by treatment by which the rickety state is corrected, and by keeping the patient much off his feet, so that instead of allowing the weight of the body to supersede the influence of the law of conformity of type, this latter force shall exercise its normal influence on the result of growth. In the case I have mentioned above, the thigh bones under such favourable circumstances, although the deformity was very marked and tie-beam buttresses were present, grew straight within the year. A similar result was met with in the following instance. A child, three years of age, presented rickety deformity to an extreme degree, involving both the upper and lower extremities, all the bones of which were short, large at their articular ends, and so curved that a single, or perhaps a double, osteotomy of each would have failed to put them straight. The patient was placed in the country, fed on milk and fresh meat, ordered cod liver oil, and kept entirely off his feet for eighteen months. At the end of this time his bones were practically straight, and he was allowed to be on his feet. This patient is now 21; the deformity has disap-

[1] Henslow, *loc. cit.*, p. 204.

peared; he is a groom, and, I am informed, is "very well and active."

These cases will suffice to show that in the early stage before a buttress, acting as a tie-beam, has been developed, rickety deformity will be corrected by growth, if its normal course is secured by favourable circumstances. They show also that deformity is removed much more rapidly than is, I think, generally recognised. On the other hand, however, when buttresses have once been developed, though even then growth will usually tend to straighten the bones, its effect in this direction is greatly curtailed.

Fractures.

Fractures in the young not rarely escape detection, chiefly because many of them are of the green-stick—that is incomplete—variety. Under such circumstances union is apt to be attended with considerable deformity. This is the case especially in the clavicle, but the same result is met with in green-stick fractures in the forearm, the thigh, and other parts. Now if these cases are kept under observation for twelve or eighteen months it is found that as growth proceeds deformity, even although it was at first very considerable, gradually becomes less, and at length entirely disappears. Although fracture of the clavicle is a frequent accident in early childhood, and although union often occurs with the fragments in a bad position, it will be allowed, I think, that it would be difficult to find in children of 6 or 8 one in whom any evidence remained to show that the accident had ever taken place. At the Children's Hospital, where I was formerly Surgeon, in dealing with green-stick fractures of the forearm united with deformity, I used at first to straighten the bones under chloroform, but afterwards I found that this method, unless the distortion was severe, was unnecessary; for the deformity became imperceptible in the course of six or nine months. But I am able to relate a case which offers conclusive evidence that after fracture in young subjects attended with deformity, as growth proceeds under the influence of conformity to type, the bone concerned may completely regain its normal shape. Some years ago I performed Macewen's osteotomy in both femora for genu valgum in a child 7 years old. I have no record of the case

at the time of the operation, but as I never resort to this proceeding in any but somewhat severe examples of knock-knee, the bones must after the operation have been put in a

FIG. 5.—The left femur of a child aged 7, on whom double osteotomy (Macewen's) for genu valgum was performed three years previously. The bone is markedly rickety, with an antero-posterior curve in the middle of the shaft. Before a section was made the seat of the fracture could not be ascertained. Looked at in front the shaft is perfectly straight. At a spot indicated by a small cross on the longitudinal sections, 6, &c., a faint trace of the fracture is still visible, namely, slight thickening of the cancellous tissue, especially towards the posterior aspect of the bone (Museum, St. Bartholomew's Hospital, No. 807 G).

position of considerable deformity. The child died three years later of measles, and this is one of the thigh bones (fig. 5). It is of normal shape, and bears no trace whatever of the

deformity which was produced by the osteotomy. Its longitudinal section, however, shows, at the situation indicated by a small cross, a projection of the wall of the shaft into the medullary canal, and this, no doubt, marks the point at which the bone was divided. This point, it is interesting to observe, is situated an inch and a-half above the proper level for an osteotomy for knock-knee, a circumstance readily explained by the growth which took place in the lower end of the shaft between the operation and the death of the patient three years afterwards.

This complete disappearance of the deformity is very remarkable, and at first sight may seem scarcely credible. Yet is it not a result that we might, on reflection, be almost led to expect when we remember what takes place in the repair of fractures in adult bones in which the plastic agency of growth is absent? Here, for example (fig. 6), is an adult femur in which a fracture has united with the fragments considerably overlapping each other. The specimen shows how strictly the process of repair has been governed by the law of conformity to type. The ends of the fracture, which were at first open, have been closed by the formation of bone exactly similar to that which forms the external layer of the normal shaft. All the interior callus has been removed so that the medullary canal has been restored, and the exterior callus, which was at first present, has also been absorbed and all projections and irregularities of the surface have been removed, while the callus which remains, to connect the overlapping ends, and which is about two inches in length, has acquired compact walls and a medullary

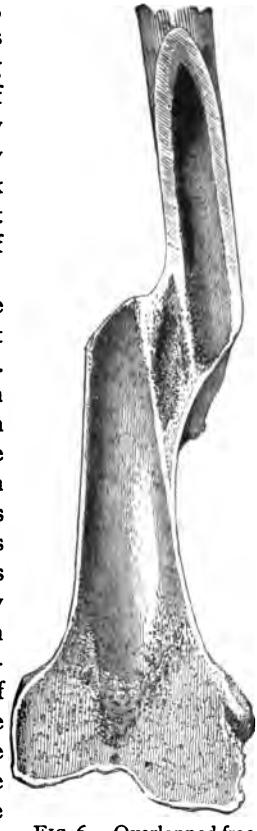

FIG. 6.—Overlapped fracture of a femur, in which the ends have become closed by compact bone, and the callus by which the fragments are united has been modelled on the type of the original shaft (Museum, St. Bartholomew's Hospital, Series iii., No. 98). Kindly lent by Messrs. Longmans.

cavity, so that it precisely resembles the type on which the original shaft was modelled. The imitation of type is throughout complete. Need we wonder, when we see how closely, even in the adult, bone repair conforms to the original structure concerned, that, when the plastic element of growth is also present, conformity to type is well-nigh absolute?

The Spine.

The influence of growth in the removal of deformity is displayed in the spine in a degree which deserves particular notice. Scoliosis, so common in its slighter degrees in the young, usually begins between the ages of 7 or 8 and 12 or 14, but it may commence in quite early infancy as the result of rickets, and, needless to say, unless proper measures are adopted the condition tends to increase and become permanent; for here, as in the case of the long bones, the weight of the trunk acting on parts diminished in rigidity becomes a stronger influence in controlling the results of growth than the influence of conformity to type, so that the normal shape of the column is exchanged for one of deformity. But those who have paid much attention to the subject are aware that in a large proportion of cases of scoliosis in children between 8 and 14 the curvature, in the course of two or three years, will completely disappear under favourable conditions—when good air and diet are secured, when overwork and constrained positions at school are avoided, and when an increased period of horizontal rest is provided (eleven or twelve hours at night, with an hour in the morning and an hour in the afternoon). When, with the accessories I have mentioned, the spine is relieved by posture of the weight of the trunk for about half of the twenty-four hours, the result of growth is soon apparent—the spine, like a rickety femur or tibia, "grows straight." The spine, however, differs from a long bone in an important respect. The shaft of a long bone, being all in one piece, is possessed of inherent stability, and is not, in its normal condition, dependent on external support; while the spine, formed as it is of separate elements superimposed on each other, depends for support on the muscles and ligaments by which it is surrounded. While, therefore, the spine tends under the

influence of conformity to type to grow straight when it is relieved of the weight of the trunk, yet as the surrounding muscles are weak the column yields as soon as the patient assumes the upright position.

Another element, therefore, in treatment must consist in the development and strengthening of the muscles. This at the present day is secured by massage and exercises judiciously employed. The idea entertained by the public, and by some practitioners, that scoliosis is always serious and intractable, is to a great degree a misconception, which has arisen from the traditions of former years, when the affection was either neglected or treated with heavy steel instruments in which the trunk was encased, and which were screwed up twice a week, or, on ordinary commercial principles, every other day. At the present time few surgeons so far ignore the rudiments of physiology as to apply steel instruments to push a scoliosis straight, as if they were pushing up the dead weight of a leaning wall, for it is clearly seen that the attempt to correct not only lateral deviation but rotation of the vertebræ by pressing in a horizontal direction upon the series of elastic arches formed by the ribs, always has been and always must remain a mechanical absurdity. Formerly the result of this treatment was to aggravate scoliosis to a very grave extent; but now that it has been discarded, the proportion of cases which become severe is greatly diminished. Indeed clinical experience shows that in a large majority of instances scoliosis is not prone to attain any serious degree; and that when the treatment I have so briefly mentioned is adopted early, and is efficiently used, a very large proportion (70 or 80 per cent.) end in complete recovery.

In those cases, however, in which infants, as the result of rickets, develop scoliosis in the first or second year of life, prognosis is very unfavourable, for during the long period in which growth will continue, deformity is likely by degrees to become extreme. There can, I think, be little doubt that the grossly distorted skeletons which are to be found in every large museum are from subjects whose curvature began during early childhood when they were suffering from rickets. No cases, I believe, more graphically illustrate the agency of growth in the production of deformity. The treatment of infantile scoliosis is attended with great difficulty.

Instrumental support cannot, it must be allowed even by those who approve of it in older patients, be applied when the abdomen is protuberant, the pelvis much smaller than the thorax, and the skin unfit to bear even slight pressure; nor can exercises be employed with good effect. The case, however, is one in which growth as an agent in the removal of deformity may be turned to very good account. The spine must be placed under conditions in which it shall be able to "grow straight." The infant must, therefore, be kept very much in the horizontal position, and appropriately-gentle massage must be persistently employed to develop and promote nutrition of the spinal and other muscles. A case in illustration may be briefly related.

A rickety infant aged 13 months, a patient of Dr. McCaskie, of Brompton, had lateral curvature with very marked rotation. The child's muscles were so weak that when he was placed in a sitting position the curvature was considerably increased. The deformity, which had been noticed for three months, was rapidly getting worse. It was evident that, if matters were allowed to go on, in the course of a year or two, or even a few months, the deformity would become extremely grave, for the bodies of the vertebræ were abnormally soft, and by being compressed in the concavity of the curves would soon become wedge shaped and otherwise distorted. The patient was therefore kept for nine months almost constantly in the horizontal position in a small wicker-work tray, in which he could be carried about, and gentle massage for the trunk and limb muscles was regularly employed. During this time the child remained in very good health and grew quickly, and at the end of the time the deformity, which had grown less and less marked, had so nearly disappeared that scarcely a trace of it remained. He was now allowed to sit up a little and be on his feet each day for a gradually extended period. He soon learned to walk, and when he was 3 he was running about in perfectly good health and strength, and with no return of his curvature. He is now a strong active boy of 11, and his spine is quite normal. The long period during which the horizontal posture was maintained was, of course, a troublesome ordeal for the child's parents. For himself, he always took it in very good part. But I would ask, by what other means

could the development of an aggravated scoliosis have been prevented?

In tuberculous disease of the knee the joint is often considerably flexed, the head of the tibia is displaced backwards and outwards, and the leg is rotated outwards. This threefold deformity is, as every surgeon knows, one which it is very difficult to correct. An attempt to straighten the limb by orthopædic apparatus involves, as I have pointed out elsewhere,[1] the use of leverage, and two objectionable results, unless great care is taken, are apt to follow. The head of the tibia may be forced still further backwards, and owing to the production of interosseous pressure the disease may be aggravated, and the joint rendered painful.

In cases of this description, provided the displacement is only moderate in degree, if the joint is enclosed in accurately-modelled leather splints, and the patient is not allowed to walk on the limb, as time goes on the joint will "grow straight." In 1886 I saw a child, aged 14 months, a patient of Dr. Buck, of Clapham, with acute tuberculous disease of the knee, attended with considerable swelling, heat, pain, and relaxation of the ligaments. The joint was flexed at an angle of about 100°, and the head of the tibia was displaced backwards and outwards to an extent that I have never seen corrected by any kind of apparatus. In so young a child it would have been a very difficult matter to use any apparatus for extension. The knee was therefore fitted with leather splints and kept at rest. These splints were uninterruptedly worn for the next four years. The joint gradually became more and more extended, the splints being remodelled about every six months to correspond with the improved position of the limb, and by the end of four years all trace of the displacement had disappeared, and the joint was in a position of complete extension, nor were its movements in the least degree impaired. At the present time the joint is still sound, quite freely movable, and of normal shape. The only remaining defects are some muscular wasting and two inches of shortening due no doubt to damage done in the course of the disease to the growing ends of the femur and tibia. In the later stages of a case of this kind the limb

[1] "Diseases of the Joints and Spine," 1895, p. 272 *et seq.*

may with great advantage be placed in a Thomas's knee splint. In this excellent appliance a broad webbing strap may be passed over the front of the thigh just over the knee, and another over the upper part of the tibia, and be so connected with the lateral bars of the splint that they assist in straightening the limb. By this means, without the production of any injurious interosseous pressure, the process of extension of the knee may be materially promoted, while the patient can move about on crutches and a patten on the other foot. It must be clearly understood that I do not suggest this method for the removal of deformity of the knee in the usual run of cases, when more active measures can be successfully employed. I have, however, from time to time met with cases in which it has led to results that could not, so far as I am aware, have been secured in any other way, and it is in exceptional cases that exceptional methods are often of the greatest value.

One further example may be related. A boy, aged 3, had tuberculous disease of the knee joint, with an abscess in the tibia which reduced the outer part of the head of the bone to little more than a shell, with the result that not only was the knee flexed, but the tibia was deflected so that a severe degree of knock-knee was developed. The distortion, when I first saw the case, was such that there seemed no probability of straightening the limb except by excision—a very undesirable proceeding in so young a child. The joint was, however, with the double purpose of arresting the tuberculous process and preventing further deformity, put up in leather splints in anticipation that at some future period excision would be done. In the next year so great an improvement in the position of the limb occurred that splints of modified shape were applied on two occasions to keep pace with the altered shape of the joint, and a year later still, the deformity had so far disappeared that the joint was almost fully extended and only a trifling degree of genu valgum remained. The boy, after wearing the splints for another year, had a movable joint and a limb which was practically free from deformity, except that it was three-quarters of an inch shorter than its fellow. On this limb he could walk with scarcely any appreciable defect. I feel sure that had excision been performed when the case first came under observation, or

even at a later period, the result would have been very much less favourable.

I hope the observations which I have laid before you will be sufficient to show, as I proposed at the outset, that growth is an agent, the tendencies and results of which must be fully taken into account in the clinical surgery of the young. This necessity arises from the fact that in the instances I have adduced, and in others that could be mentioned, various deformities are developed because conditions have arisen which have interfered with or superseded the law of conformity to type, under the regulating influence of which growth normally takes place. When this is recognised it at once becomes apparent that treatment, if it is to be successful, must be guided by the principle of removing as far as possible the disturbing influence, whatever it may be, that is at work, and substituting for it those conditions by which normal growth shall be promoted to the greatest available extent. Nor, I think, can any principle be named which rests on a sounder foundation, or which in the true sense of the term is more directly conservative. Many forms of treatment which are properly named conservative, are conservative in only a limited or qualified degree: for, although under the circumstances they undoubtedly secure the safety or promote the advantage of the individual concerned, they do so only by the sacrifice of parts or organs, the loss of which involves more or less serious disability or inconvenience; while in the cases to which I have been alluding the surgeon, recognising in growth one of the most strongly operative of all the manifestations of life, and observing the marvellous results which are produced by its agency, makes it his endeavour to ascertain the conditions which are most favourable to it, and does his best to secure their full effect. It would not be difficult to mention plans of treatment which have done violence to Nature and her methods, and which have inevitably led to failure and disappointment, for *Naturæ non imperatur nisi parendo*. But the subject I have discussed may suffice to remind us of one of the chief rules of practice—that under which the surgeon makes it his object to act as the strict disciple of Nature, and render himself ancillary to her work.

THE DIAGNOSIS OF GASTROPTOSIS.

By A. Symons Eccles, M.B.

Since the year 1888, out of 468 cases with dyspeptic symptoms recorded in my note-books I find only 27 in which the condition of simple gastroptosis has been diagnosed, in the majority of which diagrams were made illustrating what I believe fairly represents the position of the stomach in the recumbent and erect posture in each case. Of these 27 cases only 8 occurred in males, whose ages ranged from 32 to 61 years, while of the 19 females the eldest was 45 and the youngest 9 years old. In 3 other male and 6 other female cases nephroptosis was co-existent, 8 of the right kidney and 1 of the left. To these reference has already been made in my book on "The Practice of Massage"[1] and in previous papers.[2,3] Gastroptosis has also frequently come under my notice associated with sigmoid prolapse, inguinal hernia, and the downward displacement of the other abdominal viscera, but such cases more properly belong to the larger subject of enteroptosis. In this paper I shall endeavour to limit myself to the discussion of gastroptosis only. It will be observed that the proportion of cases of simple gastroptosis to other chronic dyspeptic ailments is very small, and it may be fairly questioned whether one who has seen so few examples of downward displacement of the stomach should venture to introduce a discussion on the subject with such meagre material for your consideration; but it would be easy for me to multiply instances of this condition if I did not desire to place some restriction on the use of the term "ptosis" in reference to the abdominal organs. The mobility of the viscera under normal conditions and their change of position during inspiration and expiration vary greatly in different individuals; therefore within certain limits it would not be justifiable to apply the expressions "movable," "dropped" or "fallen," to organs

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[1] "The Practice of Massage," Second edition. London: Baillière, Tindall & Cox.

[2] "Paroxysmal Heart Hurry associated with Visceral Disorders," *Lancet*, vol. ii., 1891, p. 118.

[3] "The Mechano-Therapy of Movable Kidney," *Lancet*, No. 5, vol. i., 1898, p. 288.

which in many persons appear to undergo somewhat greater changes of position than are set down in most text books, or are seen in the cadaver. For this reason let me premise my remarks on gastroptosis by stating at once that for myself the term is not fairly applied to a stomach in which the upper border of the fundus does not appear to fall below the level of the left seventh costal cartilage at its most dependent point, or in other words below an imaginary horizontal line drawn round the left chest from the tenth dorsal spinous process.

This line I have drawn for myself in more than two hundred persons of both sexes, and have found that it crosses the seventh costal cartilage in front just about the angle formed by its ascending portion on the way up to join the sternum. In less than ten instances have there been any deviations from this correlation between the tenth dorsal spine and the angle of the seventh costal cartilage. Now MacLellan states that the gastric fundus normally reaches as high as the left sixth sterno-chondral joint. Luschka places it higher still, and none of the text books I have consulted place it lower than MacLellan. My measurements were taken with the patients or subjects lying on the back, the shoulders being on the same level as the hips, and the thighs flexed in an easy position. It is in this dorsi recumbent attitude that the examinations of the abdomen have been made in all the cases referred to in this and other papers bearing on visceral disorders written by me. After ascertaining as far as possible (by inspection, palpation, percussion, ausculto-palpation and obtaining the splash sound) the limits of the stomach in the horizontal position, I have then examined the patient standing up, and I confess it has been for me a much more difficult matter to map out the position of the viscera when the subject is up-standing, even in thin, flabby-walled persons, than when the abdominal muscles are relaxed and the organs are not bulging forward.

But it is in the vertical position that the contour of the abdomen seen in profile reveals the peculiar pear-shaped bulging of the hypogastric region and scaphoid sinking of the epigastrium described by Mr. Lockwood,[1] and quoted in the very interesting and instructive address of my immediate

[1] Hunterian Lectures, Lewis, 1887.

successor in the chair of this Society,[1] to which I would refer those who are interested in the subject of enteroptosis for much valuable information; though I think that the loss of packing material has as much to do with the downward displacement of the abdominal viscera as the lack of muscular tone in the majority of cases coming under my own observation. In order to overcome the difficulty to which I have alluded in seeking to diagnose the existence and extent of visceroptosis when the patient is erect, I have devised a plan for myself which may also commend itself to others. It is very simple, and, I venture to think, effective. A broad frame (6 feet 6 in. by 3 feet 6 in.) with a firm foot piece at right angles thereto, and a mattress is placed against the wall of my consulting room at an acute angle, the lower extremity resting against stops screwed into the floor to prevent the possibility of slipping. The patient to be examined rests on this, and very soon gains confidence in this somewhat novel attitude sufficiently to relax the abdominal walls. Thus, with the force of gravity in your favour almost as completely as when the subject under examination is standing up, the abdomen may be examined and the greatest extent of ptosis so observed can be compared with that which has already been noted in the recumbent position. (As yet I have not had many opportunities of testing the use of this little contrivance; but so far it has admirably fulfilled the purpose for which it has been designed, and I am quite satisfied that it will prove to be in the future an aid to diagnosis in gastro- and other ptosis of abdominal organs.)

Much difference of opinion appears to exist between practitioners of medicine as to the value of the means at our disposal for examining and localising the abdominal organs without the intervention of the operating surgeon, and even when the scalpel cuts our diagnosis to pieces and destroys the cherished belief in our tactile sense and the evidence of things not seen, revealing anything but the substance of things hoped for, we find the most eminent surgical authorities differing as to the normal or usual position of the stomach, one declaring that the long axis is very nearly vertical,[2] while another says

[1] "On Some Effects of a Lack of Muscular Development," by W. Bruce Clarke, M.B., F.R.C.S. Bale & Sons: 1897.

[2] "Traitement Chirurgical des Affections de l'Estomac, &c.," par Dr. E. Doyen. Paris: Rueff et Cie, 1895.

that the vertical stomach described by some authors must be exceedingly rare as he has never met with it in surgery.[1] Now under these circumstances the relative value of palpation, percussion and auscultation cannot profitably be discussed, because while so great an authority as the Regius Professor of Physic in the University of Cambridge regards auscultation alone or combined with percussion as of very little use, and percussion as less valuable than might be expected, I venture to believe that I have been able to map out fairly accurately the dimensions of the stomach in a large number of cases as also of the other viscera, and my topographical delineation has been confirmed by the independent observation of others—much greater clinicians than I may ever hope to be.

The methods pursued have been those already briefly referred to, viz., inspection in different attitudes, palpation in the recumbent, tilted up, lateral and erect postures, and sometimes in the prone position, or with the patient resting on the hands and knees (this last I shall hope to refer to more particularly in a future paper on sigmoid prolapse); then percussion both direct, without the intervention of the passive finger and with it, has appeared to me to be more useful than so cautious an observer as Professor Clifford Allbutt seems to have found it. Again, I believe that ausculto-palpation has been very instructive to me in confirming the diagnosis of visceral displacements and dimensions. While the stethoscope is poised lightly on the abdominal wall, I use both hands to palpate, press on, or stroke the abdominal and hypochondriac walls, and I rarely find that the dimensions mapped out by this plan are not confirmed by percussion and *vice versâ*. Moreover, to test the accuracy of the ear, I often shut my eyes so that I cannot see the marks already made by the flesh pencil as the result of one or other of the means employed. Tapping lightly, very gently indeed with the tip of the semi-flexed finger in a somewhat staccato fashion, is also a favourite practice of mine in examining the abdomen; but I need not continue to describe methods of physical examination probably familiar to all who are keenly interested in their work. Still, when one can secure the advantage of examining the

[1] "Enteroptosis," by F. Treves. "Allbutt's System of Medicine," vol. iii.

abdomen before, after, and between meals, and often when called for in the night, with frequent opportunity of handling the abdomen, employing Frerich's, Penzoldt's, Gunzberg's and the salol tests, washing and examining fæces and testing urine daily, facilities are thus afforded for close observation, giving one temerity to discuss such subjects as this which we are to consider to-night; and I trust that the concentration of attention on a few cases may make up for the lack of the wider experience which enables some writers on this and kindred subjects to question the existence of any conspicuous symptoms in displacements of the healthy stomach and the fact of the evacuation of its contents by manipulation. For my part I have never come across a case of gastroptosis which could fairly so be called in which there were not marked symptoms of digestive derangements (and as to the mechanical expression of the gastric contents by massage, the value of such a method is not based on the statements of Zabludowski, myself, or others who are experts, but unprejudiced observers have testified to its successful practice, and among my own patients more than one member of our profession in a state of sceptical dyspepsia has experienced the comfort of the fact in *corpore suo*).

If, then, I were asked what are the physical signs and symptoms of gastroptosis, I should say that on inspection in the recumbent position the natural convexity of the epigastric region was lost, and in place thereof there is a marked concavity between the costo-chondral arches from the xiphoid cartilage almost as low down as the navel, sometimes below this point; there may also be a median sulcus intensified above by the narrowing of the space between the right and left rib cartilages, its shape being more that of an inverted Y (λ) than an inverted V (Λ). The whole abdomen may be more or less flattened with bulging of the flanks; and in the erect posture the depression over the epigastric region is still more marked, while the umbilical and especially the hypogastric regions are unduly prominent, but not so distinctly pendulous as in cases of general enteroptosis.

On percussion the stomach note is found to be topographically very much lower than usual, sometimes not audible until the left seventh interspace, or even lower than this in the recumbent position, while the lower margin of the stomach

is below the level of the navel, and on comparing these conditions with what is found in the upright or semi-erect position, the percussion note will be found to be still lower, the upper border of the stomach being sometimes also visible, and the lower border reaching as low as three fingers' breadths below the level of the navel without any increase of the vertical or horizontal measurements.

Now if Frerich's test is employed while the patient is in the erect or semi-erect posture (I mean by this latter term resting on the board I have mentioned), it will be found that the resonance rises no higher than the upper limit of the stomach noted in the recumbent position. Herein lies the difference in behaviour of the dilated and the fallen stomach. In the former the distension of the organ may rise upwards as high as the fourth left costal cartilage and downwards far below the navel; but in the latter the actual limits of the organ will be only slightly increased, and the gas will be more readily and rapidly compressed and expelled. If, however, there is a combination of gastroptosis with ectasia the limits of the stomach may be increased vertically; but even then the tympanitic sound does not rise higher in the chest than in the case of simple gastroptosis. Another physical sign difficult to describe, though very easy to elicit in gastroptosis, is what I may term ballotment, for it differs from the splash sound obtained in dilatation.

If the stethoscope or phonendoscope is placed over the intercostal space beneath which percussion and ausculto percussion have established the probable upper limit of the fundus, and the palm of the hand is pressed upwards against the lower border of the stomach, a wave is produced in the contents which comes up against the cardiac enlargement with an unmistakable and at first startling splash, the impact against the stomach wall being transmitted to the stethoscope and permitting no doubt as to the whereabouts of the upper limit; for if the instrument be gradually shifted until it is no longer over the stomach, as soon as it ceases to cover any part of the viscus itself the splash immediately becomes indistinct and distant. There is yet another physical sign which may prove useful in determining the position of the stomach, and in discriminating between stomach and colon. This is elicited by using the phonometer or tuning fork,

placing the instrument while vibrating over the regions of the abdomen occupied by the hollow viscera and noting the difference in the tone of the note when the tuning fork is moved. The change in the character of the musical sound will be instantly detected, as it varies with the subjacent organ. This I have found very useful in preventing an error to which Dr. Robert Maguire has drawn attention in a recent paper on "Palpation and Auscultatory Percussion,"[1] wherein he refers to the impossibility of correctly defining the lower limits of the stomach by the latter means if the transverse colon overlies the stomach. The use of the phonometer will enable an observer after a little practice to recognise the difference between the quality of the note heard when colon alone is beneath the instrument, and when colon *plus* stomach lie beneath it. In gastroptosis there may frequently co-exist an arching downwards of the transverse colon; but time will not permit reference to this condition, as it belongs more properly to the subject of general enteroptosis, too large to be adequately dealt with in the short time at our disposal. Though it is much more common to find gastroptosis as a condition associated with other displacements of abdominal viscera than alone, and cases of simple downward displacement of the stomach may be very rare, still that they do exist and give rise to marked symptoms even where the most careful examination fails to establish any other visceral displacement, must be conceded unless indeed the symptoms are to be attributed to other causes.

Mr. Treves[2] says, "I am not aware that these displacements of the healthy stomach give rise to any conspicuous symptoms, nor is the condition easily recognised except on abdominal operation. The instances which have come under my notice have been discovered unexpectedly in this way."

By the term "healthy stomach" I suppose we are to understand a stomach which is not the seat of some coarse lesion. If, however, disordered function is sufficient to establish want of health in the organ, then the statement of Mr. Treves doubtless holds good; for without any derangement of gastric digestion obviously no conspicuous symptoms

[1] *British Medical Journal*, No. 1938, February 19, 1898.
[2] *Loc. cit.*

will exist. Here the experience of the surgeon appears to differ from that of the medical practitioner, for we do not often have opportunities of diagnosing conditions to which the patient has not drawn our attention by complaints guiding us to seek for the possible causes of the discomfort from which relief is demanded. That we may overlook the existence of an unexpected source from which comparatively familiar symptoms may arise is very possible, just as it is not altogether improbable that operating surgeons accustomed to deal more frequently with the graver forms of disease may not regard as conspicuous, symptoms which we are called upon to alleviate because they interfere very seriously with the well-being of those who consult us. What, then, are the symptoms to which gastroptosis, apparently uncomplicated by dilatation or by the displacement of other viscera, gives rise? The following cases may serve to illustrate them :—

The first to which I shall briefly draw your attention is chosen because it is a good example of the condition portrayed by Rüdinger[1] and quoted by Mr. Treves, and also for the reason that I am indebted to a member of this Society for the opportunity of bringing it to your notice.

The patient, a lady aged 39, married 6½ years, one boy aged 5, was sent to me by my friend Dr. Arthur Clemow. She was quite unaware of the existence of any displacement, and as far as I know still remains ignorant of what I venture to believe was the cause of some of the symptoms which she described without any prompting, leading questions, or suggestions from either Dr. Clemow or myself, and before I had made any physical examination. She complained that taking food distressed her and was followed almost directly by dragging pain in the præcordial region and in the back, most acute about the ninth and tenth dorsal vertebræ, flatulence, sour eructations and a sense of weight across the abdomen just above the navel. She had suffered from insomnia for six weeks, with much discomfort generally over the abdomen, and severe pain at night of a hot or burning character to the left of the navel and towards the left hypochondrium. For some time before the onset of marked sleeplessness there had been constipation alternating with sour-smelling diarrhœa.

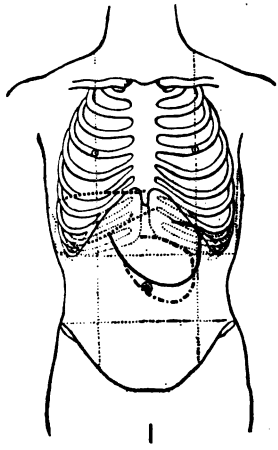
[1] Topographisch Chirurgische Anatomie, plate viii., fig. A, 1878.

There had been gradual loss of flesh, latterly becoming more marked.

At the age of 23 she had suffered from dyspepsia and nervous prostration for some months. Again at the age of 32 there had been a short attack of indigestion with lienteric diarrhœa, and three years prior to the present attack there had been slight attacks of dyspepsia, recurring ever since at intervals. During the past summer much domestic anxiety had been associated with broken rest while nursing a sick relation.

The appearance of the patient pointed to malnutrition; her face was thin and pinched, the nose was blue, the lips, gums and conjunctivæ pale. The trunk and limbs were very thin, with little or no subcutaneous fat, the intercostal spaces, supra- and sub-clavicular spaces being markedly hollow. The hands and feet were thin, cold and blue. Physical examination of the chest revealed nothing, the cardiac and respiratory sounds being normal; but the conformation of the chest was peculiar, being much longer than usual, and at the level of the eighth ribs in the mammary line there was a marked lateral constriction, which was followed below by a bulging on both sides of the lower ribs; the costo-chondral margins ran from the ensiform cartilage downwards to the eighth and ninth inter-chondral joint on the left side and a little lower on the right, almost in a straight line, so that they were parallel and would not admit two fingers to lie between them, then the arch was abruptly formed, and the chondral margins of the ninth, tenth and eleventh ribs seemed to be almost transverse instead of oblique. There was a deep median sulcus running from the xiphoid cartilage to within three fingers' breadths of the navel, the epigastric region being scaphoid both in the recumbent and erect posture. Some distension of the umbilical region was noticed in the erect position, but when lying down the whole abdomen seemed concave, and the anterior superior spines of the iliac bones were painfully prominent. Palpation enabled one to feel the pulsation of the abdominal aorta very plainly without pressure in the epigastric region; but the margin of the liver could not be felt even on deep inspiration in any position of the body. Percussion, ausculto-palpation and ausculto-percussion in the recumbent posture led me to believe that the stomach limits

above did not extend upwards beyond the eighth intercostal space in front from the mammary line on the left side across the left hypochondrium towards the deep inter-chondral median sulcus already mentioned; downwards in the left mammary line the stomach note reached the level of the umbilicus, and thence diagonally upwards the lower border could be easily made out to the junction of the eighth and ninth right costal cartilages. The ballotment or plash could be distinctly felt and heard, and some sour-smelling flatus was eructated. There was tenderness on pressure just above and very little to the left of the navel.



In the erect posture there was no stomach resonance on percussion over the left hypochondrium, but when firm pressure was made over the umbilical region the tympanitic note could be heard to the level of the left eighth costal cartilage in the mammary line. On relieving the abdomen from pressure the lower border of the stomach appeared to cross from a point two fingers' breadths below and three to the left of the navel up to the right eighth and ninth inter-chondral joint.

It will be observed that the downward displacement of the stomach was enhanced by the change of position from the horizontal to the vertical attitude of the body, but that the

pyloric end of the viscus did not appear to be influenced by the alteration of the patient's posture. Even deep inspiration and fixation of the diaphragm by holding the breath did not appear to affect the limits of the stomach to the right of the median line except in slightly increasing the ptosis so far that the lower margin fell one finger's breadth below the pencil mark previously drawn under the conditions of tranquil respiration. Subsequently, frequent opportunities arose for examining the abdomen; the salol test was employed and no reaction appeared in the urine till after the lapse of three hours, showing that there was some delay in the passage of salol from an acid to an alkaline medium—perhaps we may fairly presume that this indicated undue retention of the gastric contents, since the other symptoms to which I have referred also pointed to delay in the evacuation of the food-stuff from the stomach. Once only Frerich's test was applied, when the brief distension of the viscus was not greater than that previously noted as due to the accumulation of flatus, which caused much discomfort and harassed the patient in her futile attempts to expel the gas by voluntarily induced belching, resulting in air swallowing and consequent greater inflation.

In this case I should say that there was no dilatation of the stomach; the measures taken to relieve the symptoms were quite successul and left no room for supposing that there were any adhesions binding the organ down in any direction. There was no evidence of pyloric obstruction due to cicatrisation, the presence of a new growth or adhesion, indeed, the result of treatment precludes the possibility of any more untoward disturbance of the functions of the pylorus than those which would follow, and, as I believe, did result in this case from the fact that the greater curvature formed a sort of *cul de sac* in which the matters ingested remained too long fermenting, the level of the stomach contents being below the pyloric orifice and only partially expelled through it, leaving a residuum to taint further food supplies which were added thereto. The alternation of constipation with sour-smelling diarrhœic stools points to this condition. The attacks of belching, with sudden regurgitation of acrid matters and the visible contraction of the stomach which occurred under my personal observation, were milder forms of the

effects produced by gastrectasia; but they ceased to exist almost as soon as the relationship of the force of gravity to the contents of the organ was altered by tilting the patient's trunk so that the buttocks were higher than the shoulders, and the expulsion of the chyme was aided by manipulation.

Rest in bed was strictly maintained for five weeks, the patient rising only for a very short time each morning to take a bath. In the five weeks the unclothed weight rose from 7 st. 5 lbs. to 8 st. 4½ lbs. During the sixth week the patient was permitted gradually to increase the length of time spent out of bed, and finally to take walking exercise.

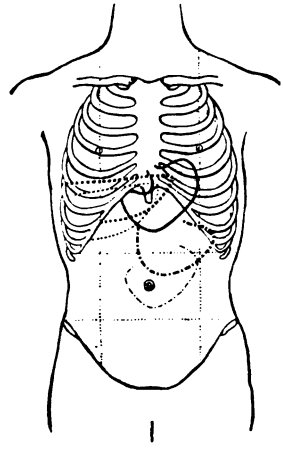
NOTE.—Since this paper was read, the patient, six weeks after the termination of treatment, has been seen. There has been no return of symptoms, and the physical signs no longer point to the existence of gastroptosis. The appetite is good, there has been been no pain or sleeplessness, and the clothed weight, 9 st. 2lbs., shows that there has been no loss since the resumption of active life.

The second case to which I would briefly draw your attention occurred in a man aged 41, who consulted me in December, 1893, complaining of constant dragging pain in the epigastrium, with distension, soreness, and a sense of weight above and around the navel after food, pain between the shoulders and in the back at a point corresponding to the ninth dorsal spine, whence it seemed to radiate upwards and to the left, and round to the front of the chest.

These symptoms caused great depression, and had gradually increased with loss of weight for many years, till now he felt so weak that he feared he must abandon his employment, for although he felt fairly well he was now hardly strong enough to dress himself in the morning. Every meal, whatever the character of the food, produced nausea, sickening weight, flatulence, and sour eructations. Vomiting rarely occurred, but on the few occasions when it did, he noticed the extreme acidity of the vomit. His height was 5 ft. 7 in., and his clothed weight 8 st. Needless to say he was very thin, the skin was dry and sallow, and the expression harassed, almost anxious. The tongue was very pale and flabby, slightly furred and marked with the teeth. The nails were bloodless and the hands and feet very cold. The appetite was capricious, sometimes none at all, at others—after diarrhœa—

ravenous. When there were not three or four unformed stools the motions were daily hard and dry.

Physical examination in the recumbent position showed that the epigastric region was concave, the umbilical region slightly bulging, the abdomen otherwise being flattened and the hip bones very prominent. There was soreness and tenderness on palpation over the umbilical region, which felt when the hand was laid on it just as if there was a half-filled waterbag (india rubber foot warmer) under the palm. The smallest movement of the hand or fingers was immediately followed by a squelching sound. At first I thought the case was one of dilatation, but on percussing from above downwards, the stomach note was not heard till the lower border of the eighth left costal cartridge was reached, thence just outside the



mammary line downwards towards the navel, and from just above the navel upwards in the median line to the lower margin of the liver (distinctly felt) the position of the stomach could be plainly made out by palpation, percussion, and ausculto-percussion.

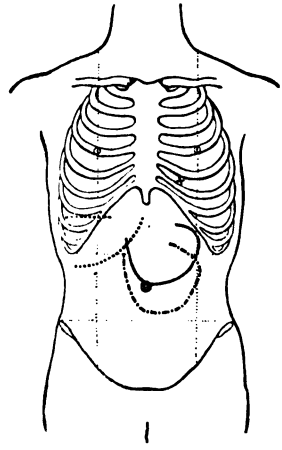
I could not trace distinctly the upper border of the stomach by any means, save in the left hypochondrium, but I am satisfied that it did not rise higher than the level of the eighth costal cartilage or three fingers breadths below the xiphoid

cartilage in the median line. In the erect posture the viscus fell so that the fundus could be felt in the epigastric region reaching no higher than a line drawn horizontally between the tenth costal cartilages on either side: the greater curvature seemed to extend from this point in the left mammary line obliquely downwards to a point two fingers breadths below and slightly to the left of the navel, thence upwards to the right of the navel and three fingers breadths above it. Beyond these limits to the xiphoid cartilage there was dulness and sinking in of the epigastrium, with increased resistance over absolute dulness from the ninth right costal cartilage across to an inch to the left of the xiphoid. The liver dulness above not extending beyond the level of the right sixth rib in the mammary line. I could discover no ptosis of any other viscus, though both kidneys could be felt on deep inspiration, and the liver moved more than usually so far as could be judged by feeling the lower margin through the thin-walled abdomen. The gall-bladder could be felt very plainly to the left of the right ninth chondral margin, rising and falling with the respirations.

In February, 1894, the patient's weight was 9st. 2lb. clothed. The tongue was quite clean, the appetite fair. Always some discomfort after the mid-day meal. Sometimes oppression in the chest. In May, 1894, there was still some ptosis, but not so marked as before. In January, 1897, I saw this patient again, when he reported himself as quite well and strong. The abdomen was normal in shape and size, the stomach note above rose to the level of the sixth left interspace and the weight had risen to 9st. 7lb. These conditions had been brought about by rest from December 15, 1893, to January 10, 1894, with careful dieting, the tilted up position and abdominal rubbing. Afterwards an abdominal belt had been worn, and a sedentary occupation was abandoned in favour of more active pursuits.

CASE 3.—A lady, aged 30, consulted me in April, 1894. Eight years previously she had suffered from tertian ague, and on her way home from Spain had been attacked by gastric catarrh, since which she had always bad dyspepsia, and had lost flesh. Two years previously she had scarlatina and then influenza; each illness increased the pain in the back and sense of weight low down in the abdomen and to the left of

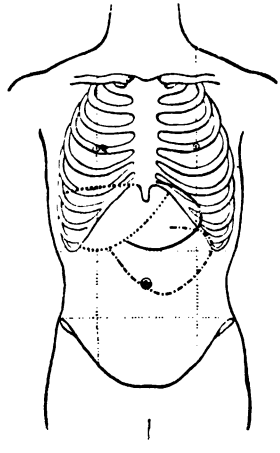
the navel. There was a sense of fulness and discomfort after every meal and great tiredness. There was no appetite for any meal, and loathing against food after lunch, which continued all day and in the evening she was too tired to dine. Constipation with frequent vomiting troubled her always, and the least fatigue seemed to produce a dragging, sinking, nauseated sensation in the pit of the stomach. The tongue was furred, marked with the teeth, and there was a patch of clean surface on the left side of the dorsum. Physical examination revealed emaciation. The clothed weight was only 6st. 10lb. There was tenderness over the eighth, ninth and tenth dorsal spines and also above and to the left of the navel; the stomach limits in the erect and recumbent postures are shown in the diagram.



Treatment by rest, diet, massage and exercises resulted in a gain of 10lb. in six weeks. Up to March, 1897, the weight has fluctuated between 7st. 6lb. and 7st. 3lb.; but there have been occasional attacks of dyspepsia when gastroptosis has always been found to exist. The difficulty in this case has been to induce better nutrition under conditions which do not admit of thorough rest.

CASE 4 is that of a member of our profession who consulted me some time ago as to the benefit which might be derived

from massage of the abdomen while he continued his practice, the condition having been diagnosed as one of gastrectasia. On examination gastroptosis without dilatation was found, and treatment was advised and urged which would be effectual, as I declined to countenance abdominal massage in such a case without rest and diet. The result so far has been satisfactory, though the time available for treatment was unavoidably too short to thoroughly restore the packing material needed to maintain the organ in place.



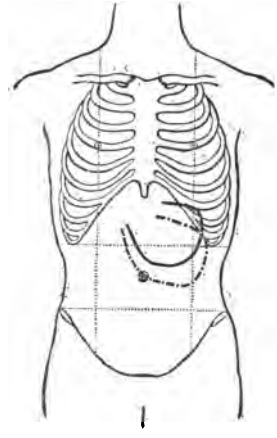
Gastroptosis without symptoms may possibly exist when the pylorus is not drawn down below the point of most fixed attachment of the duodenum, but it is difficult to understand how further displacement of the pyloric end downwards can occur without signs of obstruction. Similarly it is not easy to believe that downward falling of the cardiac end and body of the stomach can occur without untoward results if the pylorus remains in its usual position and is held in place by the lesser omentum in cases wherein the attachments of the liver are not also elongated.

Just as movable kidney may not give rise to symptoms for some years, and may eventuate in great suffering, so perhaps gastroptosis may exist for awhile without distress,

but if any circumstance arises which may decrease the support afforded to the abnormally movable viscus by loss of packing material and diminution of muscularity of the abdominal walls, undue length of the gastric ligaments, especially of the gastro-phrenic, often leads to gastric symptoms indicating chronic catarrh, and in some instances to dilatation of the viscus with most distressing consequences; while marked gastroptosis may push the transverse colon downwards and lead to further complications by interfering with the passage of fæcal matter through the large intestine.

The following complete the tale of cases, of which diagrams have been made, occurring in my practice since 1888.

CASE 5.—Dr. R., aged 40, consulted me in August, 1888, complaining of pain in dorsal region, between the shoulders and at the back of the head, with tenderness on pressure; a dragging sensation and pain after food about midway

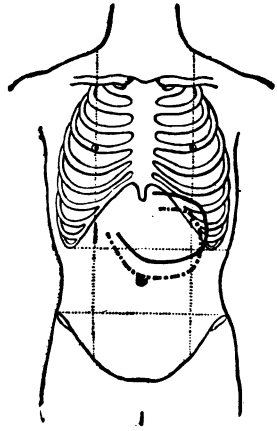


between the xiphoid cartilage and the navel. The epigastric pain extended through to the back, and when severe, caused a great secretion of phlegm and constant hawking of thick ropy mucus. The general health had been good up to the age of 14, when he became totally blind, after serious illness; since that time there had been more or less dyspepsia, which for the last two years had greatly increased. He had lost flesh and appetite, pain and regur-

gitation of food preventing him from sleeping at night. Constipation alternated with diarrhœa. Height 5 ft. 4 in. Unclothed weight 8 st. 11 lbs. Tongue flabby, with frothy streak on each side of the dorsum. Physical examination revealed that the stomach occupied the position shown in the diagram.

After a month's treatment by rest and massage the weight rose to 9 st. 6 lbs. All pain had ceased, the secretion of mucus was much less, there was no heat and sense of fulness or dragging after food, and the patient declared that he felt better than he had done for the past two years. I have had frequent opportunities of seeing this case, and in the ten years which have elapsed there has been no return of gastroptosis.

Case 6.—Mr. W. W., aged 61, complained of dragging pain in the epigastrium, loss of appetite, nausea and diarrhœa in October, 1888, which had gradually increased for the past

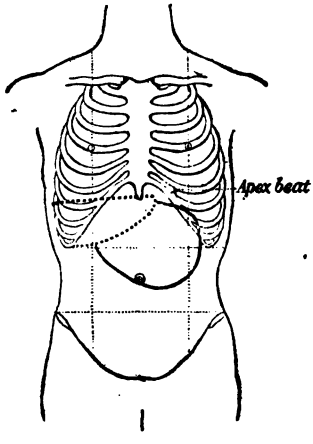


three months and was attended by loss of weight. For three or four years he had perceptibly lost flesh, and the attacks of dyspepsia during this time increased in frequency. The tongue was furred and marked with the teeth. In the recumbent position the epigastrium was concave, the lower part of the abdomen distended with much gurgling in the intes-

tines, there was pain and tenderness generally in the left hypochondriac and umbilical regions; in the erect position the prominence of the hypogastric and iliac regions was very marked. Severe aching pain extended from the eighth to the twelfth dorsal vertebræ. The transverse colon could be distinctly felt much distended; just below the umbilicus the stomach appeared to occupy the position indicated in the diagram, reaching the higher limits when the patient assumed the dorsi-recumbent posture. The motions were lienteric. Rest in bed, pulped food and a carminative mixture relieved the diarrhœa, flatulence and pain. The pulse rose from 60° to 75°, reaching 84° at the close of a week, when the patient felt compelled to resume his occupation. With the aid of a belt he remained free from any discomfort till February, 1891, when the severe weather of that winter brought on an attack of dyspepsia, and I discovered that the belt had been discarded in the summer of 1890. After a fortnight's rest, the patient, being free from all discomfort, returned to business and maintained his health until 1894, when he retired to the country and has not since been seen by me.

Case 7.—Miss N., aged 39. In June, 1889, complained of pain in the epigastrium on taking food, and after fatigue, whether bodily or mental, always associated with the dragging backache "as if some weight was pulling" at her. In the autumn of 1886 she had a violent attack of vomiting and has steadily been getting thinner since then, the weight having dropped from 10 st. 9 lbs. to 8 st. 6 lbs. (clothed). Latterly she had been obliged to take very little food in order to keep free from pain and avoid eructations of sulphurous acid. The tongue was slightly furred, with frothy streaks. The patient was very anæmic, nails, lips and gums very pale; pulse 50 in the recumbent, 62 when in the erect posture. The heart first sound was inaudible at the apex, becoming faintly audible after moving about the room. There was no history of hæmorrhage, the abdomen was scaphoid, and the whole aspect betokened serious interference with nutrition. The liver and stomach were distinctly displaced downwards when the patient stood up, but assumed a normal position when she laid down with the hips slightly higher than the shoulders. After a month's rest with careful feeding and massage the

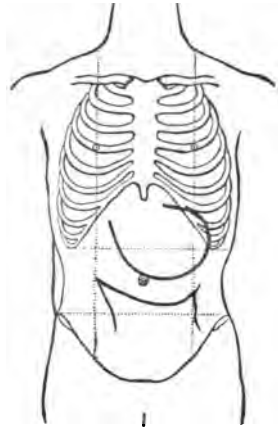
dyspepsia had entirely ceased, the unclothed weight rose to 9 st. 2 lbs., and she was able to return to her home in Belgium, whence I have heard lately that further improve-



ment in general conditions has been maintained, though the belt cannot be discarded without a threatened attack of dragging pain "in the stomach."

CASE 8.—Miss W., aged 40. In July, 1891, complained of pain in the back, epigastrium and left hypochondrium, with much flatulent spasm and palpitation on taking food. Nothing abnormal was noticed in the recumbent posture save some distension of the colon and bulging of the flanks. On pressure of the left hypochondrium pain was felt in the loin, down the course of the descending colon, and in the left arm; in the erect position there was bulging forwards of the hypogastric region, the epigastrium being flattened and forming a hollow from xiphoid cartilage to the level of the navel. The stomach limits were not satisfactorily mapped out, owing to the nervousness of the patient; but tentatively a similar treatment to that advised in the previous case was partially carried out, with the result that at the end of July the patient, though still complaining of slight pain in the epigastrium going through to the back, was able to take food in sufficient quantity; the distension of the colon and pain in the left side and arm had ceased. Twelve months afterwards, having

worn a belt and done some mountain climbing without the return of severe pain, and only rare attacks of flatulent distension, which were frankly attributed to excess in diet, this patient discarded the use of the belt. In 1894 she again consulted me, complaining of the same symptoms as before,

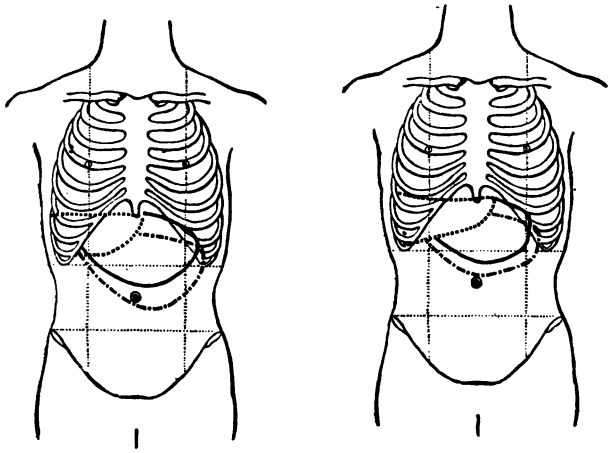


attended by rapid loss of weight, when the stomach and colon were distinctly displaced downwards with considerable distension of the ascending colon (*vide* diagram). After three weeks' treatment by rest, &c., all discomfort passed away, save occasional attacks of colon distension which were relieved after resuming the use of a light abdominal support. In 1896 this patient reported herself quite well.

Case 9.—Capt. D., aged 43, in October, 1893, was sent to me by Dr. Nankivell complaining of sick headaches, which had begun five years before and had increased in severity since, with more or less indigestion at all times, and loss of weight. He had gradually taken less food for fear of pain just above the navel and in the back about the level of the ninth dorsal spine. He had seldom been free from headache for the past six weeks. The stomach in the recumbent position did not rise above the seventh rib in the left mammary line, when standing it fell into the hypogastrium as per diagram.

From October 16 to November 24 the patient gained 6 lbs.

while being treated by rest and massage. In September, 1894, he reported that there had been no headache since November. In October of the same year he complained of flatulence, acidity, and giddiness, and the stomach, which up to that time had appeared to maintain its normal position since treatment, now occupied the umbilical region. A short rest in bed followed by the use of an abdominal belt relieved this patient, and until the end of March, 1895, he was free from all dyspepsia. In March, 1896, he again suffered from a little indigestion at rare intervals. On October 17, 1896,



the stomach limits were as per diagram, and the patient complained of epigastric pulsation, a dragging sensation, and nausea with pain about the dorsal region. He kept fairly well till April, 1897, when he had influenza and some slight dyspeptic symptoms followed thereon. In September these symptoms recurred with greater severity, and early in November treatment by rest and position was adopted for three weeks, when the stomach was so far improved that in the erect posture it did not fall below the level noted in the dorsi recumbent position (*vide* diagram ii.). In March, 1898, the unclothed weight was 9 st. 6 lbs., and no permanent increase either in weight or muscular tone had been achieved. For a time this patient seems to be able to keep his stomach braced

up, and its functions in fair working order, but as the result of a chill, or it may be from over fatigue or an error in diet, at rare intervals the old symptoms and physical signs of gastroptosis recur in spite of exercises, a belt, and careful dieting. The ptosis does not appear to exist in the intervals between the attacks of indigestion. This case is a remarkable example of the correlation between migraine and gastric disturbance.

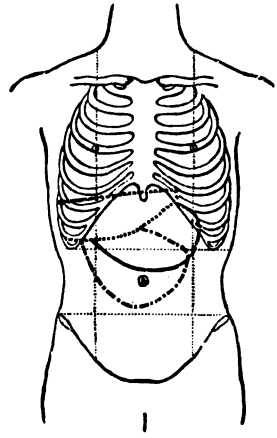
I have pointed out elsewhere the coincidence of gastrectasia with the paroxysm of megrim,[1] but the existence of gastroptosis in association with sick-headache, as in this instance, raises the question whether the relaxation of the gastric muscular wall may not also be attended by actual dropping of the sick stomach, since we know that one of the earliest and most lasting concomitants of a hemicranial attack is the flaccidity of the abdominal wall, giving the gastric ligaments the undivided task of bearing the weight of the organ in which the gastrophrenic ligament appears to do more than its fair share, since, judging from the physical signs in most cases of gastroptosis, the cardiac end of the stomach drops even lower than the pylorus. It is true that in some instances the whole viscus is dragged downwards, the liver itself occupying a lower level than normal; but this is by no means a common occurrence, and I have rarely seen marked displacement of the liver save as part of a general enteroptosis. Examples of combined gastrectasia and ptosis have come under my observation in which the pylorus has not apparently been displaced. The cardiac end and greater curvature dropping downwards. One such case has already been referred to in a previous paper.[2]

Case 10.—A girl, aged 9, complained in March, 1894, of vertical, supra-orbital and temporal pain with diplopia, anorexia and a dragging sensation in the back and abdomen. She had always suffered from indigestion and constipation. For the last eight months the headaches had come on with disturbed sleep and night terrors, awakening unrefreshed. The tongue was large and pale but not furred. Clothed weight 4 st. 2 lbs. Had lately been taking purgatives

[1] "Massage in Megrim," *Practitioner*, vol. xlix., p. 161, September, 1892.

[2] "Mechanotherapy of Movable Kidney." *Loc. cit.*

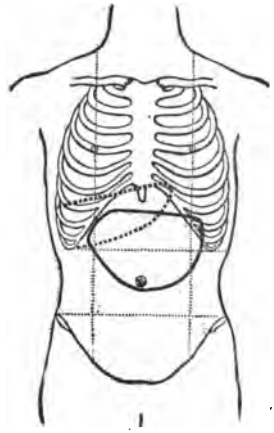
which acted too frequently. The child was very excitable and easily frightened. Urine sp. gr. 1020, no albumen, no sugar, excess of phosphates. On examination in the erect posture the stomach appeared to be dilated, the lower limit reaching below the navel and to the right as far as the tenth right rib, but on careful investigation gastroptosis was diagnosed, the upper limit not rising above a line drawn transversely between the eighth costal cartilage across the



epigastrium. After treatment till May 1, by rest and massage the unclothed weight rose to 4 st. 8 lbs., being six pounds more than the previous clothed weight. The contour of the abdomen completely changed from concave to convex, the nervousness was much less and the headaches decreased, occasionally recurring over the left temple at rare intervals. In September, 1895, she was quite well, with a good appetite and free from any pain in the abdomen or head.

Case 11.—Miss W., aged 24, was sent to me by Mr. Malcolm Morris in May, 1894, complaining of pain in the epigastrium, with a sense of weight and oppression one and a-half hours after meals, accompanied by severe aching in the dorsal region of the spine. She feared to take food on account of pain, slept heavily for the first part of the night, and then woke craving. There was obstinate constipation, slight frontal headache, great depression, especially after

food, which had latterly so increased that she felt unable to do anything. The body was ill-nourished, the skin sallow and dry, the tongue red, furred and cracked in deep sulci. In February, 1893, there was an attack of influenza, to which she attributed her present condition. The unclothed weight was 7st. 2lbs.; after a month's treatment by rest and massage, 8st. 4lbs. Gastroptosis, which was very marked (*vide* diagram) in the earlier days, seemed to disappear with the improved state of nutrition, and since July, 1894, up to the

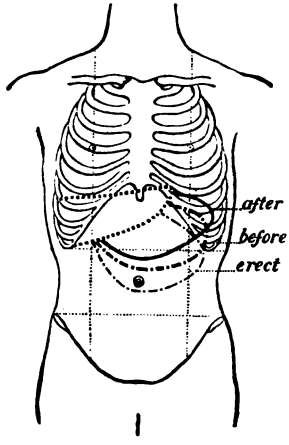


present time, May, 1898, the gastric symptoms have been much less severe, recurring only at intervals of two or three months, generally associated with the menstrual period, when she sometimes has great craving for food, and suffers from pyrosis and constipation, usually relieved by a simple aperient mixture. This patient leads a very active, out-door life and is somewhat careless as to regularity of meals, but continues to gain flesh, the present weight being 10st. 6lbs. in clothing, and shows no sign of gastroptosis on examination.

CASE 12.—Mr. J. S., aged 25, in September, 1893, met with an accident while bicyling, a cart passing over the lower part of the chest. He suffered from shock, and shortly after "from pain in the stomach," diarrhœa, premature fatigue and loss of weight. I saw him in June, 1894, when there was marked gastroptosis, venous arborescence of the

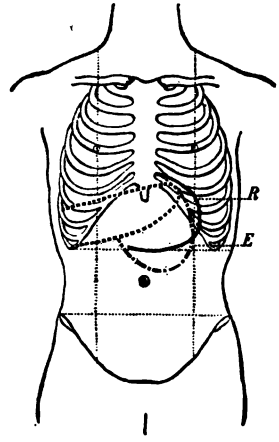
skin over the lower ribs. He was very anæmic and appeared to be weak, with pain in the umbilical region, nausea and epigastric dragging; the tongue was dry and furred, the sclerotics slightly jaundiced. Treatment was declined, and I have not since heard of the case.

CASE 13.—Miss B., aged 21, in October, 1894, complained of pain and nausea with dragging weight across the chest, over the left side and in the epigastrium directly after food. Since the previous January, when she suffered from bronchitis and



gastric catarrh after influenza, anæmia, depression, anorexia, acid eructations and constipation were the prominent symptoms associated with attacks of fainting and severe pain in the dorsal region. The tongue was large, pale, marked with the teeth and slightly furred. Physical examination revealed nothing save marked displacement of the stomach and evident loss of flesh, rendering the epigastric region deeply concave. The clothed weight was 7st. 9lbs. After six weeks' rest and careful dieting the clothed weight rose to 8st. 4lbs., and the symptoms were completely relieved, while the stomach rose to the level indicated in the diagram in the recumbent position (after), whereas before in the same posture it occupied the area of the dotted lines, and in the erect attitude did not fall as it had done previously.

CASE 14.—Miss D., aged 22, in November, 1895, complained of a pain in the chest after all food and sometimes of a dull heavy aching in the umbilical region all day long, which when present increased the pain over the xiphoid cartilage and was always accompanied by dragging pain in the back. Food was sometimes regurgitated, and an hour after any meal there were acid eructations. These conditions had lasted for three years, lately becoming more severe. Abdominal examination in the recumbent posture appeared to show that the stomach was rather smaller than usual, but in



the erect posture the organ distinctly fell, and on alternating the position of the trunk, unmistakable evidence was afforded by palpation, phonometry, and ausculto-percussion of the change in the situation of the stomach. The pain and dragging sensation were always felt to be worse when the patient was standing or walking about. After a week's rest in the recumbent position there was no longer any pain save between the shoulders and slightly across the epigastrium after food. The dull aching and dragging in the back had ceased to exist. On December 20, all discomfort had passed away. The patient was able to take food and to digest it with ease. Exercises to strengthen the abdominal walls were then substituted for rest in the up-tilted position, and on enquiry a year later she reported herself quite well.

CASE 15.—Mrs. —, aged 33, was sent to me in January, 1896, by Dr. F. O. Buckland, complaining of constant discomfort and oppression in the epigastrium, generally worse the week before the period. Towards the end of each meal there was pain in the back, coughing and retching. Anorexia, constipation, coldness of the extremities with passive congestion of the nose, fingers and toes were the most prominent symptoms. The unclothed weight was 7st. 9lbs.; the tongue was uniformly coated and dry. After a month's rest and massage the weight rose to 8st. 2lbs. The stomach limits before and after treatment are sufficiently well shown in the

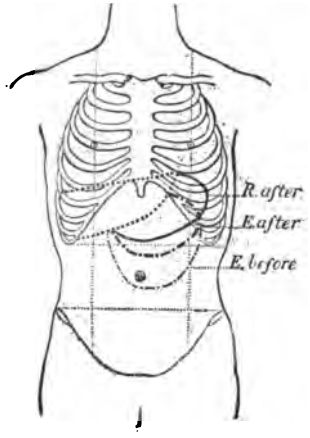
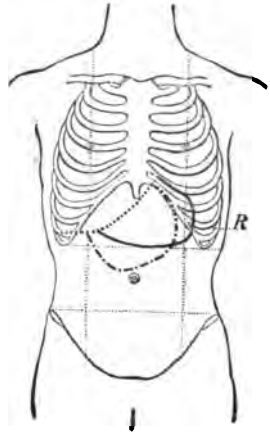


diagram. The gastroptosis appeared to follow the malnutrition consequent on five attacks of acute dysentery in fifteen months ten years previously, recurring four years before the patient consulted me. In June of the same year, having worn a belt since treatment, the tongue was quite clean, the gastric symptoms no longer existed, but there was occasional palpitation after the evening meal. In June, 1897, physical examination showed that the stomach occupied its normal position, but there had been some slight threatening of dysentery.

CASE 16.—Miss C., aged 39, in July, 1896, complained of pain two hours after food, in the back more especially and just above the navel. She had suffered from indigestion all

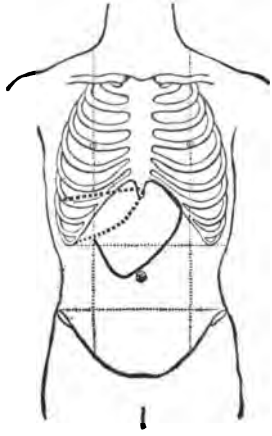
her life, but had sometimes been free therefrom for two years. During the past five months she had been losing flesh and had never been able to take food without causing great weight in the epigastrium and back-ache. There was a lateral curvature, and on examination the abdomen was found to be very flabby, scaphoid with slight bulging in the flanks. The stomach appeared to be smaller than usual, and in the recumbent posture assumed the vertical position described by Doyen. Pressure with the hand upwards when placed just



below the navel apparently restored the organ to its normal place, but the patient, being unable to spare time for sufficient rest, did not improve beyond obtaining relief from constant pain, which still recurred two hours after food, lasting only for a very short time.

Case 17.—Mr. D., aged 47, was sent to me by Dr. G. P. Tennent, suffering from general neurasthenia. Six months previously he developed pain in the epigastrium and dorsal region of the back, which came on two hours after food and became intolerable after late dinner, lasting till four or five in the morning, with great distension of the whole abdomen, acid regurgitations and occasional vomiting. He had lost 1½ st. in weight and his strength was much reduced. Four years before he had suffered from similar symptoms, but not

so severely. His top clothed weight had been 13 st., present weight clothed was 11 st. 5 lbs., unclothed 10 st. 8 lbs., in October 1896. The stomach limits in the recumbent position at the beginning of treatment were as shown in the diagram, and did not appear to vary in the erect posture. After six weeks' rest and massage the unclothed weight was 11 st. 11 lbs., and all dyspeptic symptoms had ceased; gastroptosis could not be recognised. The abdominal walls, previously thin and flabby, were now firm and well covered with a layer of subcutaneous fat overlying the muscles, which had gained both in bulk and tone in common with those of the

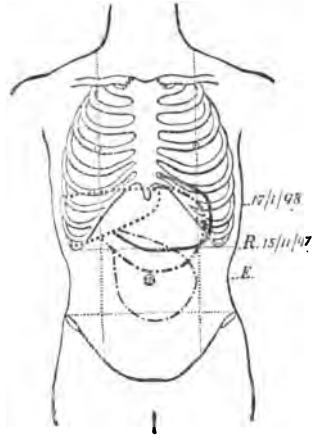


rest of the trunk and limbs. In April, 1897, the clothed weight was 13 st. 2 lbs.; in April, 1898, I saw the patient, who was quite well, strong and stout, without any physical signs or symptoms of gastric displacement.

Case 18.—In November, 1897, Miss S., aged 34, complained of increasing depression, insomnia and agora-phobia, for three years, with severe pain in the chest and epigastrium, going through to the back, greatly augmented if she attempted to travel by rail or bus, and sometimes when she walked out. Her top weight clothed had been 9 st. 8 lbs., and she now weighed little over 7 st. clothed.

In this case the median sulcus referred to in the earlier

pages of this paper was very marked, epigastric pulsation and concavity of the upper part of the abdomen being also very noticeable, indeed the physical signs were those usually met with where there has been steady loss of flesh, as in this instance when the patient's unclothed weight was only

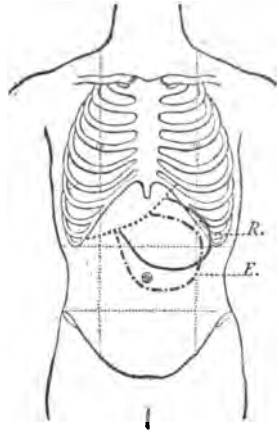


6 st. 7 lbs. In the recumbent posture the stomach occupied the position indicated in the diagram (November 15, 1897, R.), and in the semi-erect posture as depicted by the dotted line (E). After eight weeks' treatment by rest, uptilting, and massage, the unclothed weight rose to 7 st. 11 lbs., and all dyspepsia had ceased to exist.

Case 19.—Miss M. F., aged 20, was sent to me by Dr. C. T. Aveling, complaining of loss of flesh, weakness, depression, paroxysmal pain over the præcordial region, breathlessness, indigestion with want of appetite, and a dragging pain in the back after meals. There were marked signs of anæmia, the feet were swollen, the rest of the limbs and trunk very thin. A systolic murmur, audible only at the apex, with a marked thrill and distinct evidence of gastroptosis were the only physical signs in the chest and abdomen. Urine sp. gr. 1008, no alb., no sugar, oxalates.

Case 20.—Miss G. T., aged 31, in February, 1898, complained of acute pain in the lower part of the epigastrium with flatulent distension after each meal, and constant sense

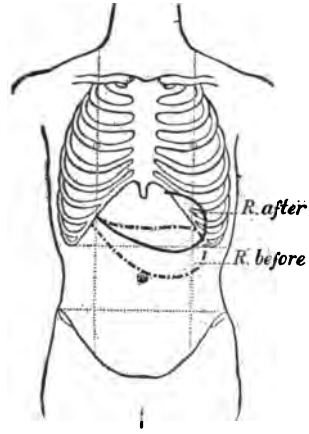
of weight sometimes associated with dragging pain in the upper epigastric region going through to the back. The appetite was good, but she was afraid of the consequences of eating, and had gradually reduced the quantity and quality of food till there was little nourishment taken. Any attempt to satisfy hunger involved mental depression and insomnia. The tongue was pale, flabby and furred, there was some tenderness to the left and just above the navel, and all the physical signs of gastroptosis were present, being specially marked in the erect position (*vide* diagram).



After a fortnight's rest the tongue became quite clean, daily relief from the bowel, which had previously been obtained only with the help of aperients, occurred without them. The acute pain quite ceased. Two hours after food taken in sufficient quantity, there was occasional discomfort. The sleep was good, and a month afterwards, with exercises and the use of a belt, this patient had gained 12 lbs. The abdomen had filled out and there were no longer any signs of gastric displacement.

Case 21.—Mrs. H. C., aged 30, in February, 1898, complained of pain after meals, constant back-ache, frontal headache, and gradual loss of flesh after long-continued worry. A similar condition had occurred when she convalesced from scarlatina at the age of 15, when owing to the great dis-

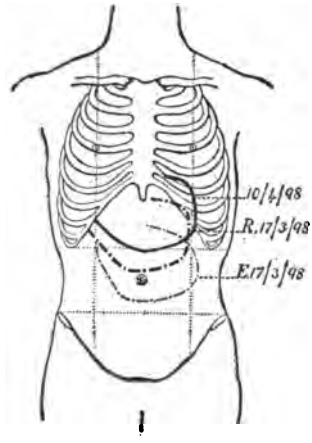
comfort produced by taking food, she had been treated for anorexia nervosa by forced feeding which failed owing to vomiting and diarrhœa, but yielded to rest and small quantities of food at frequent intervals. She believed that she was again suffering from nervous loss of appetite, but explained that she would willingly take food if it could be given without causing the great uneasiness "in the stomach,"



which even small meals brought on. Physical examination revealed gastroptosis, but the upper limit of the stomach not being discernible by the ordinary means, inflation by Frerich's test was employed, when the diagram appended was made, showing that the stomach was much below its normal position. After a month's rest the appetite had greatly improved, good food was taken in sufficient quantity, and abdominal massage twice daily after the principal meals relieved all sense of weight and oppression.

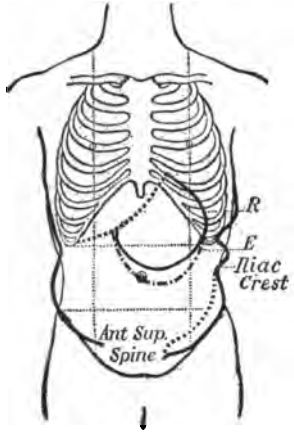
Case 22.—Mr. M., aged 32, was sent to me in March, 1898, by Dr. E. M. Pace, complaining of premature fatigue, gradually increasing indigestion, occipital and frontal headache, insomnia and mental depression. He was only able to do his work with great effort, and could not walk for a very short distance without exhaustion. His top weight clothed had been 11 st. 5 lbs., and was now 10 st. 10 lbs. There were no physical signs save those of gastroptosis

which were very marked in the erect posture (*vide* diagram). These gradually disappeared under a course of rest, uptilt-



ing, and massage. The unclothed weight in six weeks rose from 9 st. 12¾ lbs. to 10 st. 12 lbs.

CASE 23.—Mrs. E., aged 36, was seen by me in consultation with Dr. S. D. Clippingdale, in April, 1898. She com-



plained of dragging, nauseating pain in the epigastrium just above the navel, and great distension of the umbilical region

after food. There was no pain or discomfort felt when lying in bed, but when standing or walking about the sense of weight was unbearable. On examination Dr. Clippingdale diagnosed gastroptosis, which was subsequently confirmed by myself when the stomach limits in the recumbent position were as shown in the diagram. There was scoliosis, and not more than one finger could be placed between the left iliac crest and ribs, where the abdominal wall bulged out between them. The pelvis was much contracted. The patient was alarmed by the abdominal aortic pulsation which was palpable over the flattened epigastrium. Pain of a dragging character was also felt over the ninth vertebra. Tenderness on pressure was felt all over the displaced gastric area. In the erect posture the abdomen was pendulous, bulging in the flanks and over the pubis.

OPERATION *versus* TAXIS IN STRANGULATED HERNIA.

By W. McAdam Eccles, M.S.Lond., F.R.C.S.

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Intestinal obstruction is a surgical emergency and brooks no delay. Strangulated hernia is one of the common forms of intestinal obstruction, and therefore the treatment of such a condition must be prompt and effective if life is to be saved.

By strangulated hernia I wish to definitely mean a hernia which contains bowel, the lumen of which has been wholly or partially obstructed by pressure from without, and at the same time the circulation through the vessels in its wall is interfered with. I am quite ready to admit that omentum alone within the sac of a hernia may, under special circumstances, lead to symptoms resembling those produced by intestinal obstruction. Simple compression of the omentum does not cause such a train of symptoms—absolute constipa-

tion, vomiting, abdominal distension, and collapse—for if it did, then why should no such symptoms follow when it is tightly constricted by an aseptic silk ligature, or again, when it is nipped by the abdominal wall in some cases of prolapse through penetrating wounds of the abdomen ?

In every case of strangulated hernia, and even in those instances where there is a doubt as to the actual compression of bowel, two lines of treatment at once offer themselves—taxis and operation.

Taxis may obviate operation ; operation may have to follow ineffectual taxis ; or operation may be performed without any previous attempt at taxis.

It is well to have clearly stated what is meant by these two words. Taxis is the endeavour by external pressure, rightly applied, to reduce the contents of the sac into the abdomen ; operation is the exposure and opening of the hernial sac by incising the tissues over it, and the return of the contents of the sac within the abdomen, after the passage into that cavity has been increased in size if necessary.

When then should taxis hold the premier place, and when operation ? At the two extremes of life—infancy and extreme old age—taxis is the form of treatment which is the safest, and that which is usually performed. But I venture to think that operation in the form of herniotomy is far more to be preferred than taxis in the majority of cases of strangulated herniæ occurring in middle life.

The specific advantages of operation are to my mind the following :—

(1) The contents of the sac will be entirely spared the risk of serious injury by the manipulation to which they are subjected by taxis. There is a very grave and real danger of producing ecchymoses in the wall of the bowel, and I am sure that the failure in the recovery of the bowel after reduction is, in many cases, due to this bruising setting up inflammation. Moreover, actual laceration is not unknown as the result of indiscreet taxis.

(2) An accurate investigation of the condition of the contents of the sac can be made after incision. When they are exposed to view, there is also the certainty that they will be dealt with in the way in which their actual condition demands.

(3) The fluid which is exuded from the blood vessels of the bowel wall into the cavity of the sac rapidly becomes septic owing to the passage of micro-organisms through the congested intestinal wall, and among these the most frequent is the bacillus coli communis, so often the producer of septic peritonitis. This fluid must of necessity be returned into the abdominal cavity if taxis is employed with success; on the other hand, if an operation is performed, all the fluid contents of the sac can be thoroughly washed away by an antiseptic solution, and the viscera cleansed before they are returned.

(4) Further, a herniotomy enables the surgeon to proceed to the obliteration of the sac and the more or less complete closure of the aperture through which the hernia has escaped —both with a view to the prevention of the return of the protrusion. Such a complete operation will, moreover, do away with the likelihood of a recurrent attack of strangulation, which the patient still remains ever liable to when treated merely by reduction and truss.

On the other hand there are certain facts which tend to militate against a perfectly safe performance of an operation for the relief of a strangulated hernia:—

(1) The careful preparation requisite in order to secure that asepsis which is all important takes some time, in fact, a not inconsiderable amount, all of which period the contents of the sac remain strangulated, their circulation impaired and their nutrition endangered.

(2) A general anæsthetic is usually required, and this in itself is not without its dangers, for there is no time for any preliminary preparation for it, and the patient has in most cases repeated attacks of profuse vomiting, which are highly hazardous under an anæsthetic. Many of the smaller sized strangulated herniæ can be satisfactorily dealt with by operation with the use of a local anæsthetic alone, but a thorough operation with a view to cure can hardly be performed under these conditions.

(3) Sepsis should of course be easily avoided and certainly so, but failure to obtain asepsis may occur, and this complication is so serious a matter that the fear of it deters many from operating before applying taxis. Suppuration in the abdominal wall might not lead to anything more annoying than delay in the process of healing, but infection of the peritoneum may cause fatal septic peritonitis.

(4) If too free an incision of the structures forming the stricture be made, a larger aperture may result than was present before and a worse hernia follow.

(5) Also after operation a patient is confined to bed for some length of time.

(6) Lastly, there has to be taken into account the not unnatural shrinking, on the part of the sufferer, from any procedure which necessitates an incision.

It must be always remembered on the other hand that taxis improperly applied may do more than merely bruise intestine—a circumstance in itself sufficiently grave—it may actually lacerate or even rupture the bowel. Such a piece of gut may then be returned within the abdomen only to set up a fatal inflammation of the serous membrane.

Furthermore, so-called reduction *en masse* may be occasioned, leading to a belief that a satisfactory return of the contents has been brought about—a belief only to be rudely shattered by the continuance of the symptoms quite unabated.

Again, there is always the possibility of returning bowel which will fail to recover itself within the abdominal cavity.

While urging that operation takes the premier place in the treatment of most cases of strangulated hernia, yet there are certain cases already hinted at in which taxis should probably always be resorted to, at any rate as a first measure.

One particular class of such cases is that of strangulated herniæ in infants. In these strangulation never seems to be so very acute, and reduction can nearly always be easily accomplished by inverting the young patient, or by the application of taxis. Against operative measures, moreover, in infants, is the very marked tendency their herniæ have to undergo spontaneous cure if controlled by a proper steel spring truss, worn night and day, and the child at the same time is correctly dieted.

Another class of case consists of old persons who are very feeble, or who are excessively obese, and especially those who are the subjects of chronic bronchitis and emphysema, together with a dilated heart. In such taxis should undoubtedly be employed. Any contra-indications to a general anæsthetic, such as advanced cardiac disease, might also be taken as a direct indication for the use of taxis, as, moreover, are the constitutional conditions of diabetes, marked renal

changes, &c., which in themselves tell much against the success of an operation.

To sum up, operation for strangulated hernia is to be undertaken without previous taxis in a patient who is otherwise healthy and in a fit state for an operation, because it allows a complete examination of the contents of the sac, and the proper dealing with them according to the condition in which they are found, and further, because a radical treatment of the protrusion can be accomplished at the same time. Taxis is decidedly dangerous when improperly applied, and even when performed in a perfectly legitimate manner may lead to the reduction of damaged intestine, or of septic fluid which the sac contains. The golden rule of treatment in a strangulated hernia—"when in doubt, operate"—is verily a sound one, and it has been the intention of this paper to emphasise it and to make its application still more extended.

THE SURGICAL TREATMENT OF SPASTIC AND INFANTILE PARALYSIS.

By A. H. Tubby, M.S.Lond., F.R.C.S.Eng.

Senior Assistant Surgeon to Westminster Hospital; Surgeon to the National Orthopædic and Evelina Hospitals.

The objects in presenting this short paper are two, namely, to show that in certain late cases of infantile hemiplegia and spastic paralysis their condition can be much improved by suitable division of contracted structures; also to bring before your notice certain comparatively new procedures in the treatment of extreme cases of infantile paralysis, which render them more independent of the instrument-maker than they have hitherto been, and improve their powers of locomotion considerably.

In the first place let me deal with cases of infantile hemiplegia and spastic paralysis. The date of onset of this varies considerably. In some instances the hemi- or paraplegic condition exists from birth, and is then due to mal-

development of the brain, asphyxia neonatorum or trauma in delivery. In others it follows hæmorrhage during violent convulsions, or in the course of whooping-cough, or is the result of embolism or thrombosis following zymotic diseases; some of the cases, too, are micro-cephalic. But it seems best to present, not a list of symptoms, but to attempt a clinical picture.

A child, 4 or 5 years of age, is brought to one with the statement that it is backward in speaking, or that it has never spoken at all, and the mother noticed some time ago that the child failed to use one arm as well as the other, and that it has always had some difficulty in walking securely. She will also describe to you certain mental characteristics, and from such descriptions and from one's own observations one is inclined to place them into the following classes from a mental point of view. Some are persistently good-tempered and smiling and indolent; others are petulant, restless, but mentally quick. Another class is fractious, ill-tempered, and strongly resents any attempts at control, and a last variety is distinctly idiotic and micro-cephalic. It will be frequently noticed that there is external strabismus but the face has recovered from any paralysis, while sensation is unimpaired, although the reflexes are exaggerated. There is considerable rigidity of the affected limbs, which disappears during sleep and under an anæsthetic, but is increased on any effort being made to overcome it. As a rule, in a case of hemiplegia the arm is found to be more affected than the leg, but limbs which manifest this affection are not as a rule blue and cold. They are frequently shorter and more slender than is natural, and in course of time become the seat of persistent and intractable deformities. The position assumed by the arm is quite typical. In this limb flexion predominates. The upper arm is generally kept parallel with the trunk, or is a little advanced and adducted by the contracted pectoralis major. The forearm is flexed at a right angle and is almost invariably pronated, very rarely supinated. Pronation is most persistent. It is the first position to present itself in the forearm and the last to yield. The wrist is also strongly flexed and the hand is adducted. The thumb is adducted and flexed into the palm, and the fingers are firmly contracted. When one leg only is affected, in an early and

slight case, there are present a slightly contracted knee, with tight hamstrings and a foot in the position of equinus. These departures from the normal, slight as they may seem, are with the accompanying shortening quite sufficient to prevent the child walking properly. Quite as often cases are met with in which both legs are affected and the condition is lamentable. Yet, it has often been said to me by the parents of such children that they have sought advice from several physicians and have been told that nothing could be done beyond massage and the fitting of a boot, and I venture to think that there exists an opinion amongst neurologists that all surgical interference in these spastic cases will be of little or no avail. Now I think that this opinion should receive some modification, especially if it can be clearly shown that such cases can be enabled to get about with comparative ease and comfort. I will cite two out of several cases which I have treated.

Miss G. S., aged 14, was sent to me by Dr. D. At the age of 2 she had convulsions, and the mother noticed that she did not move her legs so freely as she should have done afterwards. When I saw her she had marked flexion and adduction of both thighs, contraction of both knees, the joints being flexed at an angle of thirty, and she was unable to stand on account of well-marked talipes equinus which existed. In fact, she was accustomed to crawl upstairs to bed on her hands and knees. Her speech was hesitating, but she was said to acquire knowledge readily, and to be good-tempered. I operated upon her in the manner to be described below, and for the past four years she has been walking about with great comfort.

Another case which came under my care was that of F. W., aged 9, who was sent to me by Dr. Langdon Down. She was born at the seventh month and was a very small child. When thirteen months old she was thrown out of a perambulator, and after that had convulsions which, on the first occasion, lasted on and off for seventeen and a half hours, and she had had them at frequent intervals afterwards. When she was three years old it was noticed that there was difficulty in walking and she was taken to the late Mr. Chance, who ordered her walking instruments. She has been seen from time to time by Dr. Langdon Down, jun., and the con-

vulsions only now occur occasionally. The child is nervous and somewhat passionate. She was carried into my consulting room quite unable to walk and in the following condition :—Slight external strabismus in the left eye and lateral curvature to the left in the dorsal region and to the right in the lumbar region. The lower limbs were useless for purposes of locomotion, but she could kick them about within a limited range. The muscles were in fair condition and not remarkably wasted. The thighs were flexed and adducted, so that they could not be separated. The knees were flexed and the hamstring tendons were contracted. Both feet were in a condition of extreme talipes equinus. It was pointed out that by dividing in order the contracted parts and rectifying their positions and maintaining the rectification, the child would be enabled to get about comfortably, and there would be little or no fear of relapse, inasmuch as it seemed that the irritating discharges from the cortical lesion had subsided, and what was now to be dealt with was the resultant contraction incidental to post-hemiplegic rigidity.

The method of treatment adopted in these two cases was as follows :—The tensor vaginæ femoris and the sartorius tendons and adductors were freely divided subcutaneously at their pelvic attachments. By this means the movements at the hip joint were rendered free. At the same sitting the hamstrings and ilio-tibial bands were also divided and weight extension was applied below the knee. At the end of four weeks, the hips and knees both being in good position, the tendines Achilles were divided and the feet placed in good position. In order to prevent the possibility of any recontraction, a light walking-apparatus was ordered, and suitable movements of massage directed to be carried out. It is a moot point if in these cases, in which the three main joints of the lower extremity are affected, the tenotomy should be done first at the hip or the foot. I prefer, however, to unfold the limbs in the reverse order of the onset of the deformities.

As to the arm, tenotomy has not been found a successful resource except in those rare cases in which the wrist alone is affected ; but I have reason to hope that by a new form of operation that I have devised, but not yet have had the opportunity of putting into practice, I shall be able to overcome this at one sitting.

Cases in which athetosis, mental deficiency or pronounced epilepsy are present are not suitable for operative treatment of any description. If epileptic attacks have subsided or appear very rarely and the mental condition is good, treatment may be undertaken. Micro-cephalic cases are always bad subjects, but children the subjects of spastic paralysis exhibit great variations both of physical and mental symptoms. In some, the incidence of the disease in both directions is very severe, in others it is moderate, while in a third class it is slight. It is in the two latter cases that the rectification of the deformity by treatment should be undertaken. The benefit to be derived from tenotomy is, I take it, to be explained on the following grounds: the tone of muscle and tendon depends reflexly upon the stimulation of sensory nerve-endings in those structures and directly upon the condition of the cerebral and spinal nerve centres. There is some evidence to show that any undue contracture of a muscle, such as arises from cerebral irritation, becomes perpetuated and augmented by reflex stimuli proceeding from the augmented muscular tension upon sensory nerve-endings. Now if this undue contraction be abolished by dividing the tendon, not only is this reflex diminished but the mere fact that the muscle is lengthened gives it rest, and its tonic contraction is always less afterwards.

Or, to put forward another explanation, muscles, either partially paralysed or normal, which are habitually over-stretched by their opponents, fail to develop, and the long-continued over-stretching results in gradually increasing weakness. To give an example: in cases of wrist-drop from lead palsy, it is almost hopeless to attempt the recovery of the extensors so long as the weak muscles are allowed to be stretched by the dropping of the wrist. But now place the wrist in over extension and apply galvanism and massage and the paralysed muscles will speedily recover. The same applies to cases of spastic paralysis. Give the normal muscles "breathing-time" by discontinuing by tenotomy the spastic action of their opponents and the normal muscles will gain sufficient development and strength to efficiently balance their opponents. Of course the mechanical advantage of the latter has been diminished by the additional length given to them by tenotomy.

As to the question of relapse, in many cases none occurs, and indeed, none should occur if the power of the normal muscles is sufficiently increased by use, by massage and, if necessary, by galvanism. In any event, watchful after-treatment is necessary, as in the case of all other deformities.

Infantile Paralysis.

By the term infantile paralysis is meant acute anterior polio-myelitis. The nature of the affection is peculiar in that it is very selective in its action on muscles. Not only are groups of muscles paralysed but individual muscles and even separate fibres are picked out. As a rule, the muscles of the terminal portions of the extremities are more paralysed than those near the trunk and the legs more than the arms, but the distribution of the paralysis may be very unequal. The types I wish to speak of now are those in which the paralysis is excessive in the lower extremities. In some of these instances it at first sight appears as if all the functions were entirely lost, but careful examination of the muscles of the hip will show that the psoas, iliacus and sartorius have escaped either partially or entirely, and that some flexion is left. This is a most important point, for so long as this movement is retained, however partially, the patient can be put upon his or her feet, and will, by the aid of muscle-grafting, arthrodesis, supplemented by instruments, be enabled to walk. It is not the intention of this paper to consider these slighter cases of paralytic equino-varus which can be remedied by tenotomy, but rather troublesome cases of feet deformity, such as paralytic talipes calcaneus, and cases in which there is complete flail-like movement of the limbs and knees. For such conditions two measures are open—tendon transplantation and arthrodesis.

Tendon Transplantation.

By this is meant an operation by which a healthy muscle is made to do the work of a paralysed one. Taking the case, for example, of talipes calcaneo-varus, an incision is made mid-way between the outer border of the tendo Achillis and the external malleolus, and the tendo Achillis and the peroneus longus are exposed. The posterior surface of the

tendo Achillis is roughened and it is folded upon itself so as to shorten it, thereby the heel is raised. The peroneus longus tendon is now divided and carried inwards to the under surface of the tendo Achillis and firmly attached there with kangaroo tendon and the wound is closed. Similarly, the extensor proprius pollicis tendon may be grafted to the paralysed tibialis anticus; or the outer half of the gastrocnemius, with a portion of the tendo Achillis attached, may be grafted on to the paralysed peroneus longus and brevis; or the extensor longus digitorum to the paralysed tibialis anticus.

It has been mentioned above that in a large number of cases of infantile paralysis the sartorius escapes, and being a flexor of the knee its action is useless or harmful, when extension is lost from paralysis of the quadriceps. The sartorius, however, can be transplanted and attached to the quadriceps tendon just above the patella. The attachment is made by splitting the quadriceps tendon just above the patella and drawing the sartorius tendon through and fixing it with kangaroo tendon, so that it becomes adherent to both inner and outer surfaces.

The original suggestion of this form of operation belongs to Nicoladoni, but Goldthwait of Boston has worked at the subject and has contributed the largest number of cases to literature. The latter remarks that the best results are to be looked for in the cases where one group of muscles is paralysed, leaving the antagonising group unimpaired. Much of the deformity is due to the action of the latter without the control of the former.

Arthrodesis.

In some cases of infantile paralysis all the muscles acting upon either the knee or the ankle-joint are hopelessly paralysed. In such an event the patient must remain either permanently crippled or be fitted with expensive and cumbersome instruments. Now the fixation of a joint adds stability to the limb and lessens the number of mechanical appliances. I have performed this operation about twenty times in the case of flail-like ankles. Instead of reaching the joint by means of the external incision, I have adopted the anterior method, carefully placing sutures through the tendons

on either side of the line of incision and then cutting straight through into the ankle-joint. All the synovial membrane and articular cartilage is then cut away and the bones stippled with a gouge so as to leave a rough surface. The tendons are then united and the wound closed and the leg placed in plaster and left so for six weeks. At the end of that time firm fibrous ankylosis will be found to have taken place, or more rarely bony. In the case of the knee the procedure is on the same lines as in an arthrectomy, the joint being reached by a transverse incision and by sawing across the patella. The articular surfaces are then removed, especially on the anterior aspect of the femur and tibia, and the back of the patella is wired and the wound closed. In cases in which one limb only is affected both joints may be so fixed; but in most instances it is quite sufficient to operate on the ankle only.

A CASE OF ACUTE LEUKÆMIA.

By Sidney A. Bontor, M.D., M.S. (Dunelm).

The question of differentiation between the various conditions in which an increase in the number of leucocytes occurs—that is, the leukæmias acute and chronic, lymphatic, splenic and myelogenous, the varieties of Hodgkin's disease and all conditions characterised by a hyperplasia of the lymph-glandular structure where no primary focus of disease can be found—is a most interesting one, and one which our present knowledge does not allow us to definitely decide; I therefore think a report of a case of acute leukæmia, which recently occurred in my practice, may be of more than passing interest, more especially as it is I believe the first case of the kind to be recorded in England, although Dr. Rose Bradford has been working at the subject,. and will shortly give an exhaustive report at a meeting of the Royal Medical and Chirurgical Society.

A. G., aged 18, a male, came under my care on November 23, 1897; he had returned home from a public school,

where he had been ill for a fortnight. He was a well-built and active young fellow, had been at the same school for five years, during which time he had had no illness of any kind. His previous history was very good; he had never had malaria or ague, nor was he conscious of having received any injury of the spleen; he had not recently suffered from soreness of the mouth or throat.

The family history was good, the parents coming of long-lived families free from tuberculous or other hereditary complaint.

His illness commenced suddenly on November 7, a Sunday following a week of more than usual physical exertion—he became faint and giddy during service in church and was sent to the school sanatorium; he vomited a few times and had some headache, the condition being regarded as an ordinary bilious attack and treated accordingly. He was kept in the sanatorium for a fortnight, during which time he lost strength rapidly and his eyelids became red and swollen; he was then sent home.

When I first saw him on November 23 his appearance was very striking; his face was extremely pale and puffy, the pallor being not the clear paleness of ordinary anæmia, but the complexion was of a thick yellowish tint, the margins of the eyelids were red, and the conjunctivæ swollen up in folds, and each caruncula lachrymali stood out in a little knot like the eye of a crab, the colour of the mucous membrane being pale and showing no sign of acute inflammation; the tongue was covered with a thin brownish fur but was not enlarged, the teeth covered with sordes, the gums pale, not swollen, nor bleeding easily; on the back of the neck on the left side was a boil, and there were one or two cervical glands enlarged on this side, but none on the right.

He complained of feeling extremely weak and was disinclined for any form of exertion whatever; he was free from pain, the bowels were sluggish and he slept badly; he was very short of breath.

The pulse was small, rapid and easily compressible, the heart's position normal and sounds natural although weak, the lungs presented no abnormality; no enlargement of the spleen was detected although this was not then carefully looked for. There was no ascites and no spot about the body;

the urine had a specific gravity of 1010, acid, free from albumen and sugar, and did not contain uric acid crystals. The temperature was normal.

The case was at first regarded as one of malnutrition or of scurvy. He was given a liberal diet, some out-of-door exercise and an iron mixture. During the next ten days improvement was marked. The boil on the neck healed up, although very slowly, the appetite greatly improved, the bowels acted regularly, he slept much better and began to get more energy, so that he could take an interest in things around him and could walk some distance without much fatigue.

On December 2 swelling of the gums of both upper and lower jaws was detected, the swelling being pale, irregular, and inconvenient, but not painful, and the gums did not bleed easily. His appetite fell off again, and the feeling of weakness and exhaustion rapidly returned, and he had a good deal of pain in the thighs.

From this time the course of the illness was steadily downhill; the swelling of the gums increased until they stood up in places beyond the edges of the teeth themselves, so that they were damaged by being bitten upon during mastication. Feeding became a great difficulty, both on account of the mechanical impediment thus caused and in consequence of the loss of appetite. The cervical and submaxillary glands gradually enlarged on both sides; the pulse became weaker and more rapid, and palpitation frequent and easily induced. The breathing became increasingly difficult on account of swelling of the bronchial mucous membrane, but examination of the chest revealed only a few râles and no evidence of lung complications, but there was some dulness over the sternum probably due to enlarged thoracic glands or to enlargement of the thymus. The spleen was first found to be enlarged on December 8, although this may have commenced earlier. The urine became scanty, high coloured and contained a small cloud of albumen and some crystals of uric acid. There was steady but slow enlargement of gums, glands, spleen, conjunctivæ and of the bronchial mucous membrane, so that respiration became greatly embarrassed, causing much sleeplessness. The temperature gradually rose during the last few days and ran up to 102·4°

on the day preceding his death, which occurred on December 17, within six weeks of the onset of the illness.

Dr. Rose Bradford—a slight acquaintance with whose work at University College Hospital enabled me to diagnose the case—kindly saw the patient with me and examined the blood; he tells me that the proportion of the varieties of white cells was:—

Small lymphocytes	·88 per cent.
Large ,, ...	98·49 ,,
Polymorphonuclear	None present.
Coarse oxyphile	·23 per cent.
Myelocytes	·4 ,,

I regret that I cannot record more frequent examinations of the blood, but the rapid improvement which ensued upon the return home of the patient masked the real facts of the case and misled one into thinking the condition less serious than it subsequently proved to be. Moreover, it is not possible in general practice to carry out the proper technique of staining blood specimens, and without staining examinations are useless, a mere microscopical examination of fresh blood being valueless for diagnostic purposes, an increase of white cells, even though very great, not being in itself sufficiently characteristic of any class of disorder, inasmuch as the most varied kinds of disease may under peculiar circumstances manifest extreme leucocytosis—such, for example, are acute pneumonia, malignant disease, especially sarcoma, pernicious anæmia, Hodgkin's disease, &c.,—and it is only by a differential count of the various *kinds* of white cells after staining, that any trustworthy information may be obtained; cases have indeed been mistaken for leukæmia because a great *number* of white cells, in the slide of a specimen of blood examined fresh, was taken as evidence conclusive of this condition, whereas they were cases of leucocytosis only in which there was a general increase in the number of adult leucocytes, without increase in the characteristic cells, such, for example, as the myelocytes.

Reports of cases of acute leukæmia have been but few and chiefly made in Germany, about forty cases altogether having been recorded at one time or another; undoubtedly, however, some of these are of questionable character, since in some accurate examinations of the blood have not been

made, while in others distinction between leukæmia and leucocytosis due to various conditions was not established.

The onset is generally abrupt, though weakness may precede more decided symptoms. Pain in the splenic region and in the limbs frequently occur; the lymphatic glands as a rule become enlarged and the spleen generally presents some evidence of swelling, although it is never very great and may be altogether absent. Evidences of a hæmorrhagic diathesis are rarely entirely wanting and are frequently marked, and there may be petechial hæmorrhages under the skin or bleeding from the gums, and Frænkel states that several of his cases were at first regarded as cases of scurvy; ulcers of the mouth and other parts of the gastro-intestinal tract have been described by Hinterberger, and these lesions have since been observed by others.

It is, however, around the question of the hæmatological features of these conditions that the interest centres, and in the acute cases these features are commonly those of lymphatic leukæmia, but myelocytes—the characteristic cells of the splenic-myelogenous variety—have, as in the present case, been recorded, but they may of course appear in any cachectic condition: the cells which are most characteristic of lymphatic leukæmia are the lymphocytes, which frequently, as here, exceed 90 per cent. Frænkel, in his elaborate consideration of the subject in 1895 and subsequently, has described chiefly an increase in *small* lymphocytes, but drew particular attention to certain large cells, many of them twice the size of an ordinary red cell and having a large nucleus relatively poor in chromatin; these he regarded as of lymphatic origin and entertained the possibility of their being lymphocytes pathologically enlarged, referring to the statement of Virchow that the cells of the lymphatic glands increase in size as well as in number in leukæmic diseases of these structures. In the present case the great increase was in these large cells, and it appears from the investigations of Cabot[1] that it is futile to divide them into "small" and "large" since they may be pathologically identical and yet differ widely as regards size; in some cases they are nearly all of uniform dimensions, while in others every gradation from the smallest to the largest may be found.

[1] Cabot, "Clinical Examination of the Blood," 1897.

Another point which will have been noticed in the report of the examination of the blood is the absence of polymorphonuclear cells, and this is another valuable aid to diagnosis and is in accord with the usual conditions found in all cases of leukæmia, in which the polymorphous leucocytes tend to decrease just as in most forms of leucocytosis they tend to increase, and they may fall from the normal of 60 or 70 per cent. to 20, 10 or, as in the present case, to even less than 5 per cent. of the total number of white cells.

Before concluding, I should like just to refer to the very marked improvement in the patient's condition produced by his altered surroundings. Here was a patient suffering from an acute illness which was to have an early fatal termination, and yet as a result of improvement in the comfort of his environment—for to no other cause could the improvement be attributed—as a result of being removed from the comparative discomfort of a school sanatorium to the more congenial atmosphere of his home, the degenerative process was not only for a time checked but for a brief period a process of repair took its place; of course it was only for a very short time and the fatal termination could not be averted, but it was enough to show the effect of environment upon the nutritive processes, and is a satisfactory commentary upon our usual plan of prescribing change of scene and surroundings to our debilitated patients.

PRIMARY STERILITY.—Vedeler (*Centrablatt f. Gynäkologie*, No. 26, 1897) reports his investigation of 310 sterile women, all of whom had been married more than one year. Seventy-two had been married ten or more years, and the average duration of married life in the remaining was three years. The examination of fifty of the husbands of these women determined that thirty-eight surely had had gonorrhœa, and it was also determined that thirty-four (68 per cent.) of these had infected their wives. He says if it can be concluded that the result of the examination of these fifty sterile marriages be correct, then 235 of the 310 husbands must have had gonorrhœa, and also that 210 wives were infected. That this last approaches the truth is shown in that, in 198 (44 per cent.) of the 310 women examined the same inflammatory signs of gonorrhœa were found as in the above thirty-four, whose husbands undoubtedly had had gonorrhœa.—*University Med. Magazine.*

Report of Proceedings.

CLINICAL EVENING.

March 4, 1898.

Dr. H. PERCY POTTER, President, in the Chair.

A Case of Gastrotomy for Foreign Body.

The PRESIDENT: The operation of gastrotomy has been frequently performed for the removal of a foreign body from the stomach, and provided these cases are taken in hand early the results are favourable. It must be difficult in most cases to determine with accuracy by external manipulation the site or even the presence of a foreign body which has been swallowed, but by the use of the Röntgen rays a new light is thrown upon these cases and a decisive verdict given in respect of the necessity for an operation. The difficulty of obtaining good photographic results consists in the thickness of the abdominal walls and contents and the movements of respiration, and likewise of the stomach. The picture is therefore indistinct and blurred but sufficiently evident to determine the presence of something which ought not to be there. I bring to your notice the case of A. G., aged 30, a well-nourished woman, who was admitted on January 13 last, stating that she had unintentionally forced a button-hook about four inches long down her throat. She was quiet and reserved and gave every detail of the act in a rational manner, so her statement was believed. The hook could neither be seen nor felt; a bougie was passed without difficulty into the stomach. She was kept under observation till 8 p.m. and then taken to Dr. Low, who produced by the Röntgen rays three unmistakable negatives of the foreign body *in situ*. It lay in the epigastrium on the left of the middle line, the hook portion pointing downwards and inwards about an inch outside the first lumbar vertebra. On the morning of the 14th a median vertical incision was made three and a-half inches long between the xiphoid cartilage and the umbilicus, opening the peritoneal cavity. Upon introducing two fingers to the left the loop of the hook was found deeply situated; the hook portion was manipulated towards the plane of the abdominal incision, steadied between the thumb and finger, cut down upon and removed.[1] The mucous membrane was

[1] The button-hook was of the cheap steel variety shaped out of a piece of soft steel wire, and measured four and a-half inches in length and one inch in breadth at the loop.

united by a continuous silk suture, the muscular and serous coats by Lambert's suture and the parietal incision by interrupted silk and silkworm gut stitches, then dressed with blue gauze steeped in perchloride and covered by a many-tailed bandage of domet. The operation was practically bloodless, and no sponges were introduced into the abdomen. An hour after the operation the patient vomited some blood-stained fluid, and in the afternoon during the intervals of sleep she complained of pain which was relieved by an injection of morphia. A nutrient enema of peptonised milk was given in the evening and repeated every four hours. Ten drops of laudanum in hot water was taken by the mouth at 9 p.m. On January 16 the wound was dressed; there was no pain. Two teaspoonfuls of peptonised milk were ordered by the mouth every hour; this quantity was gradually increased till the 24th, when the patient had an egg with bread and butter and enjoyed some "beef-cacao." On the 25th the sutures were removed, and the patient was allowed fish on the 27th. The wound was completely healed on the 29th, and the patient got up on February 4, convalescent. It may be stated that there was absence of fever and complication of any kind throughout the progress of this case. My thanks are due to Mr. Osborn and Mr. Lloyd for their valuable assistance.

Case of Injury by a Leopard.

Mr. C. B. KEETLEY: The notes of this case are as follows: Henry C., age 36, employed at Barnum and Bailey's Show, admitted January 17, 1898. Had just been attacked from behind by a powerful leopard, which scratched (bit ?) the left side and back of his neck in many places. It was carefully cleaned and dressed by Mr. Flavelle. Some of the wounds were apparently rather deep, though small. Temperature rose steadily to 102° on second day and 104° on third and fourth days. Swelling under lower jaw on left side of neck. Pain in chest in front. Constant expectoration of viscid mucus. Mouth cannot be opened wide. January 20 (fourth day): Some roughish breathing at right apex behind, much sore throat. 21st.—Throat feels better, a rigor today. Another, same night—temperature 105°. January 22 (sixth day): Neck swelling increased and fluctuating, incised freely; pus let out. Iodoform gauze drain; 10 cc. of antistreptococcus serum. 23rd.—"Taken well, restless night." From now, temperature varied between 101° and 102° for a fortnight; 10 cc. of antistreptococcus serum repeated on the 24th (eighth day) made no apparent difference. But

patient was always cheerful and expressing himself as feeling better; and, on the nineteenth day of the injury, temperature began to drop, reaching normal, or rather sub-normal, in three days and remaining there. The local treatment was boracic fomentation. Leopard was driven off with iron bars. Patient walked out of its cage, but had no correct idea of this or of what took place from the moment he was first attacked until he found himself leaning on a friend outside the cage. The notes are by Mr. Flavelle.

Mr. McAdam Eccles: In connection with this case of Mr. Keetley's, I should like to allude to one which was admitted into St. Bartholomew's Hospital some while ago. A negro had been mauled by a lion and had a large laceration of the left thigh. In spite of this gaping wound being thoroughly washed out with antiseptics, he died in a few days of acute septicæmia. I think that the very pronounced febrile state in Mr. Keetley's case, and the fatal result in the one I have mentioned, only prove how very prone these wounds inflicted by wild animals in captivity are to result in cocci infection. This would probably be quite different to what would occur if the animals were in the forest.

The President: I think that tetanus should not uncommonly follow such injuries from animals.

Mr. A. G. Levy: In certain cases of bad mauling by the teeth and claws of lions in their wild state, the injury did not, in my experience, tend to do otherwise than well under treatment—in fact such wounds were remarkably free from all septic appearances.

Mr. G. Twynam: The risks attendant on injuries caused by the mauling by tigers in India are well known, but to add to the discussion I may say I have seen three cases of boys mauled by sharks in Sydney. They were not large enough to take a whole limb off, but the soft tissues were deeply lacerated, and though sharks are usually considered foul feeders no unusual trouble was met with. All the wounds healed readily under boracic acid fomentations.

A Case of Locomotor Ataxia.

Dr. Seymour Taylor: I show you a man aged 36 years, who came to my out-patient room in February of this year complaining of pains in the legs.

History.—Two and a-half years ago he first noticed that he had difficulty in walking, and says he felt as if his joints were loose. He had occasional pains, generally in knees, about once every week. The difficulty in walking and the pains in the knees gradually became worse, until in January

he had to give up work (metal work). Has had difficulty in walking in the dark for a year. The pains are sudden and sharp, and have been much worse during the last week in the knees, thighs and hip. No other crises. Does not think his sight is as good as it used to be. *Present History.*—Gonorrhœa eighteen years ago. No history of syphilis.

F. H. Single. *Nil* of importance.

Present condition.—A worn, rather anxious-looking man. Tongue slightly furred. He has the three co-ordinal signs of locomotor ataxia, viz., Argyll-Robertson pupils, absence of knee jerks, and lightning pains. Eyes: pupils nearly pin points; react to accommodation, not to light. Patient's gait is markedly ataxic, bringing his heels down smartly to the ground. Cannot stand with his eyes shut without reeling. Can only turn round with difficulty. When he walks he says he feels the ground with his feet as he used to do. He attributed the difficulty in walking to his joints being weak.

Legs.—Knee jerk absent. Ankle clonus not obtained. No tenderness of muscles of legs, or on pressure over tibia. Plantar reflex seems to be lessened.

Arms.—No ataxia of hands.

He complains of pains shooting up the legs and thighs, and occasionally of tight cord-like pains round the waist. Chest: lungs normal. Heart normal. Urine: sp. gravity 1012, acid, no albumen.

Dr. A. WHITFIELD: I think that in many cases of locomotor ataxia there is delayed transmission of sensation rather than actual anæsthesia.

A Case of Wandering Rash on the Tongue.

Mr. MCADAM ECCLES: This patient presents a typical wandering rash on the tongue. She is 3 years of age, and for the last six months she has had off and on this characteristic condition of the surface of the tongue. There is no suspicion of syphilis, and the child is otherwise healthy, and suffers but little inconvenience from the condition. The mucous membrane of the tongue presents the peculiar appearance sometimes described as a "geographical tongue." Here and there the filiform papillæ have been shed while the fungiform remain, and these patches, which are comparatively smooth, may be called "seas," while the rest of the papillæ appear rather hypertrophied, and form the "continents." The cause of the disease is practically unknown, but I do not think there is much, if any, evidence to show that it is dependent on syphilis. The condition is not very uncommon

in children; and with regard to treatment I think a mouth-wash of chlorate of potassium, and the internal administration of iron and cod liver oil, is all that is required.

I also wish to show you a patient who has had an

Injury to the Lower End of the Left Radius.

He is a boy, aged 14, who two and a-half years ago had an injury to the left forearm, but he is unable to state precisely the nature of it or the exact area it affected. Here are beautiful skiagraphs taken by Dr. F. H. Low, which exhibit extremely well the condition of the affected side, as well as the outlines of the sound side. If you compare the actual parts as well as the skiagraphs, you will notice that in the forearm, which is the affected one, that the lower end of the diaphysis of the radius is distinctly enlarged. Further, the styloid process of the radius is on the same level, or slightly higher, than the styloid process of the ulna, whereas on the normal side the process of the radius is quite half an inch lower than the process of the ulna. I think this case may be one of separation of the lower epiphysis of the left radius, but I confess that with the skiagraphs before me I am by no means certain that it is really the exact lesion which has occurred. There is very distinct displacement of the hand to the radial side, but not much backward displacement. In addition there is some bowing of the ulna, which is perhaps the outcome of arrested growth of the lower end of the radius.

A Case of Spasmus Nutans.

Dr. WHITFIELD: I show you this child, aged 7 months and 3 weeks, which was brought to my out-patient department on account of spasmodic movements of the head and eyes. When the child is sitting up the head shows continual movements of a nodding character, with a slight deviation towards the left as the head comes forward. The oscillations are, however, by no means constant either in their direction or degree, although they do not cease altogether for any length of time. If the child's attention is strongly attracted for a time, the movements cease for a few seconds and then begin again as before. The movements are easily stopped for a short time by steadying the head between one's hands, but when this is done a well-marked horizontal nystagmus is developed in its place. The movements are less when the child is laid down horizontally, though the nystagmus shows itself slightly in this position. The mother says that the

child sleeps well, and that the movements then cease entirely. With the exception of this condition the child is in excellent health in every way. The spasms have now lasted for six weeks and seem to be neither progressing nor dying away as far as I can see. The child has now five teeth through and another on its way, and it had already four teeth before the spasmodic movements were noticed.

The best description of this condition is to be found in Henoch's "Diseases of Children," to which my friend and colleague, Dr. Aldren Turner, kindly drew my attention. Henoch, who described the disease in 1851, gives a list of seven cases which have passed under his personal observation, all of whom were between the ages of 6 and 15 months. He points out that the spasms are usually associated with the eruption of teeth, and that the prognosis is quite favourable, in spite of the fact that the condition is uninfluenced by any treatment. This slight and transitory disturbance is to be carefully distinguished from the more severe and fatal form of spasm which affects not only the head but the upper part of the body with a bowing movement. This latter condition is associated with disturbance of the intellect and epileptic fits, and is, of course, of very serious importance.

Mr. McAdam Eccles: This case is a very interesting one and by no means common. I happen to have had a somewhat similar one. A female infant was brought to me when 3 months old for left congenital talipes equino-varus. I noticed that the child had typical spasmus nutans; and on inquiry of the mother, I found that the condition had come on when the child was 2 months old. The patient was under my care for some six months, and at the age of 8 months the nodding had quite disappeared, without any special treatment. I do not think that there was any connection between the talipes and the spasm. This case certainly had nothing to do with teething.

A Case of Acute Psoriasis.

Dr. Abraham: I bring before you a boy, aged 14, with extensive and universal psoriasis, including the body, limbs and scalp, the individual lesions being very numerous and closely approximated, especially upon the chest and abdomen and the flexor surfaces of the limbs. The entire efflorescence has appeared within the last few weeks. The lesions are rapidly increasing in size and number, and in consequence of the epidemic hyperplasia and synchronous peripheral extension, many of them resemble limpet shells. There is no family history of psoriasis, and the boy is otherwise quite well.

The patient will be shown at the next meeting, by which time I anticipate that the lesions will have disappeared without the exhibition of arsenic. I show this case not as a curiosity but as a pretty and typical example of the affection.

A Case of Re-fracture of the Left Patella after Wiring.

Mr. McAdam Eccles: I show for Mr. Bidwell a man who has had a re-fracture of the left patella after wiring. The patient broke his right patella in January, 1891, and the bone was wired by Mr. Edwards, the patient regaining perfect use of his limb. The left patella was broken in August, 1897, and was wired by Mr. Bidwell. He recovered, practically, perfect use of his leg, and remained well, resuming his work as a gas employé. On December 21, 1897, as he was going down some steps he missed his footing and made a violent effort to save himself from falling and again broke his left patella. On December 28 the knee was opened, and it was found that the wire had broken at the twist, and the patella had become fractured at the site of the old fracture. The two fragments of patella had evidently been partly united by bone, as there was no eburnation of the surfaces. The old wire was withdrawn, and after a slice had been removed from each fragment the fresh wire was passed through the old holes in the bone, and the fragments brought together. The patient made an uninterrupted recovery, and has now a useful limb. Personally, I think that possibly bony union of the patella is not always to be so much desired as is commonly believed. We know that ligament is in many cases stronger than bone, and it may be that fibrous union in the case of a fractured patella is less likely to be rebroken than bone itself.

Ordinary Meeting—April 1, 1898.

Dr. H. Percy Potter, President, in the Chair.

The Differential Diagnosis between Gastroptosis and Gastrectasia.

Dr. Symons Eccles read a paper on this subject, which is published *in extenso* on page 176.

The following discussion then ensued:—

Dr. Clemow: I have much pleasure in proposing a hearty vote of thanks to Dr. Symons Eccles for his interesting and important paper. The subject is one which in my opinion comes before us particularly opportunely at the present time, inasmuch as we are now passing through an epidemic of

influenza which has been principally characterised by its effects upon the digestive organs. As to which of the conditions of post-influenzal catarrh of the gastro-intestinal tract, together with the accompanying weakness of the muscles, both voluntary and involuntary, may lead to the production of gastroptosis or gastrectasia, I am not prepared to say, but I think that the possibility of such a causation should be borne in mind, and that it behoves us all in the investigation of such cases to thoroughly examine our patients in order to ascertain the presence or absence of conditions pointing to these affections. As an aid to diagnosis, Dr. Eccles' paper is of no less importance. It has always seemed to me that the descriptions given in text-books of medicine, of the methods of ascertaining the dimensions and position of the stomach, are, speaking generally, far from satisfactory. Dr. Eccles has indicated to us various means by which greater exactitude may be obtained, and of these the methods by palpation and ausculto-percussion seem the most important. With regard to the case referred to by Dr. Eccles as having been sent to him by me, I can only confirm all that he has said. The patient when sent to him was in a truly deplorable condition, extremely emaciated, pinched, with bluish extremities, and altogether miserable. Thanks to Dr. Eccles' courtesy I had the opportunity of seeing her after she had been a month in his home. She had then lost all her dyspeptic symptoms, was digesting her food well, had gained considerably in weight, and had re-assumed an aspect of comfort and well-being. The same happy result followed in the case of a gentleman suffering from similar symptoms whom I had sent to Dr. Eccles some months previously, but where, in his opinion, the gastroptosis was of congenital origin.

Mr. J. H. MENZIES: I have listened to this most instructive paper with great interest, as I have recently had under my care a patient suffering from the allied condition of enteroptosis. The case was interesting in a double way as it occurred in a male, and the nervous phenomena, which Glénard has associated with this disease, were paramount. The patient was 34 years of age, a schoolmaster, who came to me asking if he was "ruptured." On examining the abdomen in the erect position, the muscles were seen rigid and hard with an absence of subcutaneous fat. There was a varicocele on the left side, but no hernia was felt. On relaxing the muscles a striking change occurred, the abdomen rapidly swelling from above downwards, showing the epigastric hollowness and the pear-shaped swelling in the hypogastrium so graphically described by Dr. Eccles. Great bulging of

both inguinal regions was also noted, and the patient complained of dragging pains and a sense of fulness, which he said always came on after standing for some time. There had been no continuous dyspepsia and never any acute gastric symptoms. His muscular system was well developed, and he wes able to take outdoor exercise. He was extremely nervous and hyperæsthetic, and said he found his work irksome. I recommended exercises of the abdominal muscles—a very important point of treatment—and a well-fitting abdominal belt, which gave him great relief. There was very marked dilatation of the superficial veins of the abdomen and lower extremities, and I should like to ask Dr. Eccles if this was usual in his experience.

Dr. GEORGE OGILVIE: I have listened with much pleasure to the paper which Dr. Symons Eccles has just read. During the last two months I have seen him very frequently in connection with a relative whose ill-health has been a source of anxiety to me during the last twenty years. The patient had frequently been seen by such able men as Sir John Williams, Dr. Champneys, Mr. Watson Cheyne, the late Dr. Matthews Duncan, and latterly by Dr. Eccles. In the very early years of the case there was some element of doubt concerning the diagnosis, but during the last twelve years there has been no uncertainty as to the cause of the various symptoms, and the condition was recognised by all the medical men whom I have mentioned as one of intermittent hydronephrosis caused by a movable kidney. The history of the case is briefly as follows:—In 1878 the patient received a kick from a horse in the centre of the abdomen, and as might be expected the symptoms were severe, and convalescence was long and protracted. Digestion was seriously impaired, and emaciation was a natural result. About a year after the accident, discomfort, pain, and swelling were experienced on the *right* side, accompanied by nausea, vomiting, and all the other symptoms of intestinal obstruction. On the administration of morphia and injections of olive oil the more acute symptoms subsided. After some time the patient appeared to progress, but on any exertion, or shaking from driving, &c., the same symptoms appeared on the *left* side, instead of on the *right* side as formerly. These attacks continued more or less severely for years, with occasional intervals of fair health. Gradually it became apparent that the left kidney had become displaced, and during an acute attack a large and fluctuating swelling could be both seen and felt, extending from the lower ribs on the left side downwards, forwards and inwards to the middle line. Relief only could be obtained by the remedies employed on former

occasions, viz., morphia injections and enemata of olive oil. About four years ago the patient became acutely ill while abroad, and I was summoned, managing with difficulty to bring her home. Rest and careful nursing brought about some change for the better, but the delicate state of health still continued. The inability to take food in sufficient quantities became more marked about a year ago, the emaciation increased and the kidney attacks became more frequent. It then became necessary to consider whether surgical interference should not be employed. However it was deemed advisable to try first whether *complete* rest, feeding, &c., might not bring about the desired result. Dr. Eccles kindly undertook the treatment of the case and verified the former diagnosis as to the condition of the kidney, at the same time drawing attention to the displacement of the stomach and intestines, which was apparent when the patient was standing erect. The horizontal position, careful diet, abdominal massage, and general massage were thoroughly carried out, with the consequence that the distressing symptoms gradually disappeared, accompanied at the same time by a marked increase in fat and weight. This continued steadily until she had attained an increase of twenty-eight pounds. The patient is now able to walk about fairly well, and her ability to do so and drive, &c., improves from day to day. She finds great help and support from a carefully fitted abdominal belt, made under Dr. Eccles' supervision, but time will alone show whether she will gradually be able to dispense with this. I can only conclude by saying that I am very much indebted to Dr. Eccles for his careful and skilful treatment of the case.

Dr. Symons Eccles: The remarks which Dr. Clemow and Dr. George Ogilvie have been good enough to make on the cases entrusted by them to my care need no reply other than the thanks which I am glad thus to tender them for the opportunities their courtesy has afforded me for carrying out, with a measure of success which I hope and believe will prove lasting, the treatment adopted and advocated by me for gastroptosis. In regard to the case cited by Mr. Menzies, I have not seen any myself in which there were no symptoms, but I see no reason why gastroptosis should not exist in a slight degree for a time without local discomfort, just as nephroptosis may so exist. Still there is great probability that sooner or later the displacement of any viscus will be a source of trouble, and I am quite sure that in many instances visceroptosis causes distress and sometimes danger to the patient, who may be quite unaware of the condition.

A Case of Leukæmia.

Dr. BONTOR read a paper with the above title, which appears on page 221, after which the following discussion took place.

Dr. ROSE BRADFORD: I had the opportunity of seeing Dr. Bontor's case and also of examining the blood, and there is, I think, no doubt that the case was one of acute lymphatic or lymphocytic leukæmia. Such cases have not, to my knowledge, been recorded in this country before, but I have had a series of four under my care at University College Hospital during the last eight years, and this series will shortly be published in the *Transactions of the Royal Medical and Chirurgical Society of London*. All my cases were characterised by the presence of intense anæmia, fever, stomatitis, slight purpura, and a great excess of lymphocytes and especially large lymphocytes in the blood. In some cases there were over 90 per cent. of lymphocytes in the blood. All the cases ran an acute course, being fatal within eight weeks. On *post-mortem* examination there was some enlargement of the lymphatic glands and structures in all cases, and more especially enlargement of the abdominal lymphatic glands. The spleen was never greatly enlarged, and in some cases was not at all enlarged; the marrow of the long bones was in all cases diseased, the fatty marrow being replaced by either the so-called "red currant jelly" marrow, or else by puriform material. The thymus was persistent or enlarged in most cases. These cases are similar to those described by Fraenkel in 1895, but I think it is better to call them cases of acute luekæmia than to use the term acute lymphocytic leukæmia, as a great excess of lymphocytes may be found in the blood in cases of ordinary chronic leukæmia without the lymphatic glands being greatly enlarged.

Dr. A. WHITFIELD: I quite agree with Dr. Rose Bradford's remarks as to the presence of an increased number of small lymphocytes in some cases of spleno-medullary leukæmia. The small lymphocyte has been present in large numbers in the blood of all the cases of leukæmia which I have had the opportunity of examining, and whereas in the type of the disease commonly known as the small-celled lymphatic leukæmia, large cells may be of great rarity, in the large-celled type the ordinary small cell is invariably present in large numbers as well. The great characteristic of the blood of leukæmia seems to be a tendency to the substitution of mononuclear for the usual poly-morpho-nuclear cells. Thus we have the lymphocyte, large and small, and the ordinary myelocyte replacing the common poly-morpho-nuclear leucocyte and the eosinophile myelocyte replacing the normal poly-

morpho-nuclear eosinophile cell. One other point I should like to touch upon in Dr. Bontor's very interesting paper, and that is the fact of the great temporary benefit experienced by the patient on removal from the school to his home, and I should like to ask whether the school and the home were situated in districts far removed from one another. In Vienna, where one sees much more leukæmia than here, the disease is said to vary in frequency in different areas, such areas not necessarily corresponding with the malarious districts of Austria. It is therefore conceivable that the temporary benefit was associated with a change of district, though the disease had already too strong a hold of the patient for the benefit to be permanent.

Dr. CRICHTON: Is there anything which would suggest itself to Dr. Bontor as a possible cause of the illness? It recalls in its main features—even to the apparently decided improvement—a case of leukæmia which came under my care a few years ago. The patient was a young woman who had gone for change of air after her first confinement. The striking features of her case were (besides the waxy pallor) (1) the slight character of the illness at the first and then its rapidly fatal progress; and (2) the great difficulty there was in feeding her, although in this case there was some vomiting. As to the duration of the illness, it was certainly not more than six weeks—I imagine very much less. The Society is indebted to Dr. Bontor for bringing this case before us, and for the clear and admirable way in which he has recorded it. As regards treatment, in my case iron and arsenic seemed to benefit. The difficulty in administering iron was the obstinate constipation which was present. To relieve this I gave two or three small doses of mercury. The patient, however, was much worse afterwards. Should another case come under my care I should push iron and arsenic in heroic doses and emphatically avoid giving any mercury.

Dr. BONTOR: With regard to the causation of the condition I was not able to discover anything definite in this case, nor has anything been suggested, so far as I have been able to ascertain, in those cases which have been published in Germany; injury to the spleen may possibly have occurred at football, but the patient was not conscious of any such injury, and it must be remembered that the blood does not present the characteristics of splenic leukæmia. With regard to the improvement noticed after removal from school, he certainly did travel a considerable distance—from Northamptonshire to Hertfordshire; both places having a considerable altitude, and both being reputed to be "healthy and bracing."

Ordinary Meeting—Friday, May 6, 1898.

Dr. H. PERCY POTTER, President, in the Chair.

Operation *versus* Taxis in Strangulated Hernia.

Mr. MCADAM ECCLES read a paper on the above subject, which is published *in extenso* on page 210, after which the following discussion took place:—

Dr. F. H. ALDERSON: I have listened to Mr. Eccles' practical paper with much interest, for hernia is a subject always interesting and important to the surgeon and especially to the general practitioner. I am able to confirm the author's statement that the hernia cases in young children generally do well, and that old patients bear the operation for strangulated hernia satisfactorily. I have been in practice about thirty-five years, but have never found operation for hernia in young children necessary. I remember one case under my care was that of the infant daughter of a clergyman who was exceedingly anxious about his child, and he told me he thought "Some operation ought to be done" to effect a cure as, although I was always able to reduce it, the hernia would often return when the baby cried, or from other causes. Eventually he took the child to Great Ormond Street Hospital; there my opinion was confirmed, and similar treatment adopted, and by the constant wearing night and day of a good washable truss (with a light spring as she got older) a perfect cure resulted in a year or two. I have found in some herniæ aperient medicine useful, and even in a case where there were symptoms of strangulation a pill every three or four hours of hyd. subchlor. gr. 1, ext. bellad. gr. ½ and tinct. opii. gr. ½, useful (and followed by my reducing the rupture), in conjunction, of course, with the local treatment, as ice, elevation, &c. As to old people, I remember a case of femoral hernia in which Mr. Teevan operated on an old lady of 70; he had some difficulty in returning the whole of the hernia; the next morning, as the symptoms were not quite relieved, he thought he might have to enlarge the opening. During his examination I noticed the patient passed a little flatus; I told Mr. Teevan this, as I thought it proved the operation had been successful, he therefore decided on no further interference. The lady perfectly recovered, and lived ten years afterwards without having suffered any further inconvenience from her rupture. I mention this symptom of successful return of the gut, as although simple it was a valuable and useful one, as but for this the surgeon would have performed another operation, which fortunately was not necessary.

Mr. C. B. KEETLEY: If by taxis is meant the use of force

or roughness, it has been dead in *good* surgical practice for many years. The custom at the West London, so far as I have known anything about it for twenty years, has been to send for the surgeon as soon as a strangulated hernia case was admitted. In the meantime the patient is given a hot bath and put to bed with the feet raised. Formerly he received also a dose of opium, and an ice bag was placed on the hernia. Opium and ice have been discontinued for several, I might almost say "many," years. When I arrive, if the hernia has not gone back, I almost invariably operate at once.

But, especially in private practice, it is sometimes inconvenient, in consequence of business or other engagements, to be operated on without notice in this way. If the strangulation is doubtful, or very recent, or not severe, it is right then to endeavour by gentle manipulation, with further elevation of the pelvis, to *persuade* the hernia to go back. But force should never be used, and decision as to operating or not should not be postponed. To wait would be fatal to some very innocent-looking cases, even though presenting no signs of urgency, especially if opium had been given, or the subject were old and flabby. The surgeon must always decide himself and not leave the decision to the patient.

Mr. G. E. TWYNAM: I have listened with much interest to Mr. Eccles' paper, but there is a good old adage, "hear the other side," and I think he has spoken very much from the point of view of the hospital surgeon. It is all very well to say every case should be operated on at once where cases can be run into a hospital like the West London with everything to hand. Had Mr. Eccles been, as I have, in Australia, where it is often impossible to get assistance nearer than five miles, —and then the other doctor may be out visiting—he might modify his views. Does he mean to say that in such cases the hernia should be covered up with antiseptics and then wait for further aid? Most men have chloroform in their bag and that can be given and taxis tried, and in a very large proportion of cases the rupture is reduced successfully. One objection to taxis is reduction *en bloc*, but in how many cases that any of you can recall have you seen reduction *en bloc*—I can only recall two. Asepsis, too, is an essential, but in country districts you have to use the best means at hand and often to use pudding basins, &c., which do not tend to asepsis, and the risk is increased.

Take another point. Mr. Eccles says patients have a not unnatural shrinking from any incision. I say, too, they have a not unnatural shrinking as to payment. You may get paid for reducing a hernia, but I doubt if you would get paid for many operations. It has been said that reduction in

infants is very easy on occasions; that is not so, and I have had to operate on a child 18 days old where the hernia could not be reduced by taxis under chloroform. The large proportion of hernia in children occur in boys, and with the hernia a long prepuce is almost always found. The hernia is forced down by straining, and if circumcision be done the hernia can usually be cured. If a hernia can be reduced by taxis this allows one to choose the time for operation similarly to what is accepted as the best line of treatment in appendicitis —between the attacks when the parts are not inflamed. Mr. Keetley said, *àpropos* of the yielding of the scar after operation, that it was easy to put in another stitch or two, but it is to be remembered that the hole made by the needles in the aponeurosis has been the starting point for a fresh hernia, as I myself have had to deal with. I trust these few remarks may meet with the approval of the members present.

The PRESIDENT: I believe that the variety of the contents of the hernial sac should influence us to some extent as to whether we employ taxis or operate, if, indeed, it is possible to differentiate between omentum and intestine within the sac. Herniotomy has been performed without previous taxis in fifty-six cases over 60 years of age, and I have had no reason for being dissatisfied with the results.

Mr. MALLAM: I should like to know whether the septicity of the fluid in the sac of a strangulated hernia has been demonstrated, and whether such has caused peritonitis on reduction.

Mr. MCADAM ECCLES: I have to thank the members present for the way in which my paper has been received. I am glad that Dr. Alderson bears me out in the fact that strangulated herniæ in infants but seldom require operative interference. I cannot, however, agree that it is safe in any cases of strangled bowel to give a purge. Mr. Keetley's remarks with regard to taxis are important, especially where he condemns taxis employed after an incision has been made down to the sac. There is no doubt that there is a vast difference in the taxis which may be legitimately applied to a simple irreducible hernia, and one which has become strangulated. It only bears out what I have said when he avers that he would operate in almost every case of strangulation.

In reply to Mr. Mallam, I am bound to confess that the actual bacteriological examination of the fluid found in the sac of a strangulated hernia of some standing, is so distinctive of the presence of micro-organisms that it alone makes me shrink from taxis, although I must say that I have seen but few cases of peritonitis due to this cause. Mr. G. E. Twynam has very rightly drawn attention to the great diffi-

culty under which operative procedures have sometimes to be conducted in private, but I venture to think that such is no argument against the advantages which I claim for the operation of herniotomy. I cannot agree with him that circumcision tends to the cure of inguinal hernia in male infants, unless a truss be worn after the operation. Phimosis may be an important predisposing cause of, but circumcision will not cure, hernia. I am much obliged to our President for his interesting remarks on the operative treatment of hernia in old persons; it only shows how well such is borne if undertaken at an early stage.

Recent Advances in the Surgical Treatment of Infantile Paralysis.

Mr. A. H. TUBBY read a paper upon this subject which is published in full on page 214.

The following discussion then took place:—

Mr. C. B. KEETLEY: Has Mr. Tubby had any experience of arthrodesis of the hip in cases of infantile paralysis of that joint? I have found it difficult to establish artificial ankylosis in such cases. With regard to arthrodesis of the knee I think its value is sometimes a little overstated. If some of the knee-cases reported by various surgeons had been stiff instead of paralysed, and it had been possible to make a new, smoothly working, but paralysed joint at the knee, I fancy we might have been urged to do that—the advantages of being able to bend the knee when sitting down, or when lying down in cold weather, and the simplicity of an appliance with a ring-bolt at the knee being duly impressed upon us. At the same time, arthrodesis is a useful operation in selected cases.

Mr. MCADAM ECCLES: I would like to ask Mr. Tubby, after congratulating him on his paper, whether he has found the length of the sartorious muscle of any importance when the occasion arises of implanting it into the quadriceps extensor tendon? Further has he found that some cases of infantile paralysis leave the hip joint so much affected that it is of but little use to perform arthrodesis on the knee or ankle?

Mr. TUBBY: In reply I beg to thank the Society for the opportunity given me of bringing this subject forward. The operation of arthrodesis and of tendon-grafting are designed for the very advanced cases of infantile paralysis in which complicated mechanism is required—in fact those which hitherto had been capable of treatment by instruments alone. I do not think that the length of the sartorius muscle is of

any great importance, since the end of the muscle can be turned beneath the tendon of the extensor muscle and fixed there. Mr. Keetley's remarks are useful, but scarcely valid, since a firm limb is more valuable than one with flail-like joints.

Pathological Specimen.

Dr. MANSELL MOULLIN exhibited the Fallopian tubes which he had removed from a patient a few days previously. In the recent state they were the size of an orange, and each contained two or three ounces of thick green pus. Dr. Martin, of Shepherd's Bush, had kindly sent the case to the hospital. She had had two children seven and eight years previously. The catamenia had generally been regular until the last occasion when she went over the time by six days. She was then taken with great pain in the lower abdomen, and the case presented many of the features of tubal abortion or hæmatocele. The temperature gave no indication of the nature of the cysts, and during the forty-eight hours she was in hospital before operation never exceeded 99° F. The walls of the tubes were much thickened and hypertrophied. They were bound down by firm adhesions. There was no recent peritonitis or effusion of lymph. A diagnosis in such cases previous to operation could not be made with certainty. The patient was convalescent.

DURATION OF INFECTION IN WHOOPING COUGH.—Weill, who in 1894 expressed the opinion that whooping-cough is contagious only during the premonitory catarrhal stage, has since put his opinion to the test. On various occasions he permitted nearly one hundred young children, who had not previously suffered from whooping cough, to be associated in the same ward, for twenty days or more, with children suffering from the disease during the stage of whooping. In only one case was the disease contracted, and in this instance the patient from whom the infection was derived was in the very earliest period of the whooping stage. In three small epidemics Weill was able to satisfy himself that infection was contracted from children who had not yet begun to whoop. He concludes that infection ceases very soon after the characteristic whoop begins, and that therefore it is not the child who is already whooping, but his brothers and sisters who have not previously had whooping cough, that ought to be isolated.—*Modern Medicine.*

The Mirror of Practice.

A CASE OF ABDOMINAL HYSTERECTOMY BY THE INTRA-PERITONEAL METHOD, FOR A UTERINE FIBROID CAUSING RETENTION OF URINE.

By Frederick J. McCann, M.D., C.M., M.R.C.P.Lond.

Physician to Out-patients at the Samaritan Free Hospital for Women.

Miss L., aged 44, for twelve months had complained of difficulty in passing urine, and on several occasions the bladder had become over-distended. About three weeks before I saw her she had had to send for a doctor, who relieved the distended bladder by passing a catheter, a large quantity of urine being withdrawn.

Her menstrual periods had been regular, lasting five or six days, except during the last ten months, when the flow was more profuse and occurred every fourteen days. The patient was very constipated.

State on Examination.—She was a woman of spare build, anæmic and very nervous. I made a careful abdominal examination and found that the bladder was distended. A catheter was passed and a large quantity of urine removed. The urine gave evidence of having been retained in the bladder for some time. On further abdominal examination a hard nodular growth was felt, extending above the symphysis pubis. Bi-manual examination showed that the tumour was uterine and wedged into Douglas' pouch, the cervix being pushed forwards towards the symphysis pubis. Between the internal fingers and the external hand the tumour could be moved to a slight extent. As the retention of urine was getting gradually worse, I recommended an operation.

On December 27, 1897, I opened the abdomen in the middle line between the umbilicus and the pubis. On introducing the fingers the size and relations of the tumour were defined. The incision was then enlarged by scissors. After some difficulty, the tumour was brought out through the wound. The greater part of the tumour was wedged deeply into Douglas' pouch.

The appendages were secured by ligatures. Long clamps were affixed to the broad ligament on each side, the latter being cut between the clamps.

Flaps of peritoneum were then made by a circular incision low down around the cervix. The uterine arteries were tied

on each side. The tumour was then cut off and some bleeding points in the stump secured.

The cavity of the cervix was swabbed out with wool dipped in strong corrosive sublimate solution introduced on a probe. By means of a curved needle threaded with No. 3 silk, the edges of the cervical tissue were approximated. The appendages were cut off after being properly secured. The edges of the broad ligament on each side, together with the peritoneal flaps over the stump, were united by means of a continuous suture of No. 3 silk.

The abdomen was flushed with hot salt solution. The abdominal walls were sutured with silk-worm gut, and the wound dressed.

The patient rallied well after the operation. Her temperature never rose above 100° F., and she was able to pass urine naturally on the third day after the operation.

Some of the stitches were removed on the seventh day after the operation, when the wound was dressed for the first time. The remaining stitches were removed on the ninth day.

The patient was able to leave her bed three weeks after the operation, and a week later she left the Nursing Home.

I have seen this patient lately and she has remained perfectly well and passes urine naturally. The tumour weighed 6 lbs.

Remarks.—Cases of fibroid tumour impacted in the pelvis frequently present serious difficulties to the operator. If the tumour cannot be removed the appendages may be, in the hope that the artificial menopause so produced will be followed by the atrophy of the tumour. It is, however, better for the patient that the tumour be removed and the ovaries left, unless the more complete operation would imperil the life of the patient.

The ovaries were removed in this case because the patient was near the menopause. My original intention was to be content with oophorectomy, as from my examination I thought that it would be very difficult to remove the tumour.

Retention of urine is a most important indication for operation, as secondary disease in the urinary tract may soon supervene.

Where the fibroid is not too large and is movable, it may be pushed up and kept in position by means of a vaginal pessary. In cases where the tumour is firmly wedged into the pelvis a pessary is useless, and removal of the tumour should be recommended.

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A CASE OF EMBRYOTOMY.

By G. Drummond Robinson, M.D., B.S.Lond., M.R.C.P.
Assistant Obstetric Physician, West London Hospital; Physician to Out-Patients, British Lying-in Hospital,
AND
E. W. Lewis, M.R.C.S., L.R.C.P.
Assistant Anæsthetist, West London Hospital.

Decapitation is by no means a common operation, and as this is, we believe, the first case of the kind that has occurred at the West London Hospital, it seemed to be worthy of record in the Journal.

Mr. E. W. Lewis was summoned by a midwife, early in the morning, to a confinement case in which the face was presenting, and in which no progress was being made although the labour pains were strong and frequent.

The patient, aged 38, was a multipara and had experienced little trouble at previous labours. The abdomen was noted to be enormously distended and pendulous. The membranes had already ruptured and the face was presenting with the chin in the left anterior quadrant of the pelvis, not engaged, but above the brim. Pains were powerful and frequent and the general condition satisfactory. Forceps were applied, but failed to obtain a grasp upon the head. Mr. Vaughan Penderd was then summoned to administer chloroform. The pulse rate was at this time accelerated and the patient showing signs of commencing exhaustion.

Again the forceps were applied, but with no better result than before. Version appeared to be the only course now open, and with the greatest difficulty a limb was secured which proved to be the right arm. After half-an-hour's toil, aggravated by the pain caused by the pressure of the contracting uterus on the operating hand, a foot (right) was secured and brought down. By pressing up the head and shoulders and by powerful traction upon the leg an effort to turn the child was made, which was wholly ineffective.

The prolapsed cord having ceased to pulsate and the condition of the patient becoming constantly more grave, it was decided to decapitate. It was found possible to push the head far enough to the right to allow of operation upon the neck. Having obtained some instruments, the patient was again anæsthetised, but they proved to be too short to reach the neck, where it lay high up above the pelvic brim. An attempt was again made to perform version but without avail. As both patient and accoucheurs were now exhausted it was decided to remove the patient to the West London

Hospital and to seek the assistance of Dr. Drummond Robinson.

After admission no further effort was made to turn. A sharp decapitating hook was, with great difficulty, applied to the neck, which was found high up above the brim on the right side of the uterus. Decapitation was performed but was difficult, since the handle of the decapitator ($14\frac{1}{2}$ inches in length) only projected a short distance from the vulva and a good grasp of it could not be obtained.

Traction was then made on the leg that projected into the vagina (right), but this did not advance, and it was impossible to bring the foot outside the vulva, or to apply a noose to it. The leg was therefore grasped with the cranioclast and traction was made on it, with the result that the limb gave way at the part where it was crushed between the blades of the instrument. The cranioclast was then applied to the thigh and traction again exerted, an attempt being at the same time made to bring down the left leg. This proved to be a most difficult matter, as the tightly contracted uterus opposed the entrance of the hand. It was, however, at last accomplished, and traction being made now on both legs the fœtus slowly turned, and the body was at length delivered. The head was then grasped by the hand in the uterus and rotated so as to make the occiput present. Supra-pubic pressure was now applied and the head was grasped with midwifery forceps, as it was then found that considerable force would be necessary in order to deliver it in this way, it was perforated and then crushed and delivered by the cephalotribe. The bones of the skull were found to be very thick and hard. The placenta was immediately removed by the hand and an intra-uterine douche of biniodide of mercury (1 in 3,000) given. The embryotomy occupied nearly an hour and a-half, and the patient was somewhat collapsed after it. Pulse 120°. She, however, soon rallied and made an uneventful recovery without a rise of temperature, and left the hospital on the fourteenth day after the operation.

The child was very large and weighed (without brains) nearly 12 lbs. The maternal pelvis was normal.

Remarks.—In the first instance, finding that the forceps stopped, turning was attempted in the interests of the child. To complete this was, however, found to be impossible on account of the firm contraction of the uterus, and it only resulted in the production of a transverse presentation. The subsequent difficulty of delivery was due to: (1) the rigidity of the uterus; (2) the high position of the fœtus above the brim, and (3) the large size (12 lbs.) of the child.

One of us has met with a case of shoulder presentation, in

which embryotomy was rendered impossible on account of the tight contraction of the uterus round the shoulder and prolapsed arm, which prevented the introduction of the hand or instruments. The only course left was to perform Cæsarean section, but the patient did not recover from the shock of the operation.

Cæsarean section which, at the present day, gives such good results when performed early in labour, is not to be lightly undertaken after the uterus has been in action for some hours, and where prolonged efforts at delivery have been made. We were fortunate in this case to have escaped the necessity of having to perform it, as we were at one time afraid that we should be compelled to do. The uneventful recovery of the patient without a rise of temperature we regard as a triumph of antiseptics, every precaution having been taken in this respect from the earliest stages of labour.

Reviews and Notices of Books.

HALL ON MEDICAL EXAMINATION FOR LIFE INSURANCE.[1]

EVERY medical practitioner is frequently called upon at the present day to examine applicants for life assurance, and although the important and essential equipment for a competent examiner is a sound knowledge of the methods of physical examination, still there are many special points connected with eligibility for life assurance with which it is desirable he should be familiar. These he will find dealt with in Dr. Hall's book in a clear, concise, and practical manner. The book begins with a section on family history and its bearing on the prospect of longevity. This is followed by a section dealing with the personal history of the candidate, and contains important hints on the effect of previous diseases on the future prospects of the life. The next portion of the book is devoted to the all-important question of the present condition of the person examined, and the various points which require to be considered. Lastly comes a section on the environment of the applicant. We can thoroughly recommend Dr. Hall's book to every practitioner. Its

[1] "The Medical Examination for Life Assurance," by F. de Havilland Hall, M.D., F.R.C.P. Bristol: John Wright & Co., 1898.

compass is small because it is devoid of all the padding so common in books of this kind. It is clearly written, and being founded on long practical experience in insurance work it is thoroughly practical. All the more do we wonder what induced Dr. Hall to append to his book Dr. Leslie Ogilvie's "Table of the Classification of Assurance Lives." This table may possibly be regarded as ingenious, but it is totally devoid of any practical application.

ROUGHTON ON ORAL SURGERY.[1]

THIS is a good book for the dental student and practitioner, as well as for the general surgeon, but we could have wished that it had been more finished in its appearance. The printing is to our mind deplorably bad, so many broken letters showing on almost every page, besides other marked instances of want of neatness in the printer's art. Passing by, however, these defects, which do not mar the intrinsic value of the work, we congratulate Mr. Roughton on the clear way in which he has expressed himself throughout, but particularly so in the section on empyema of the antrum. This subject is one of such importance that it is always desirable that precise indications as to its treatment should be unhesitatingly laid down. We confess to some disappointment in not finding a fuller description of salivary fistula, a condition which is, we think, deserving of more than the few lines in which it is dismissed.

MARTINDALE AND WESTCOTT'S EXTRA PHARMACOPŒIA.[2]

WITH their usual promptness the authors of this well-known work have issued a ninth edition, bringing it up to the date of the revision of the British Pharmacopœia. We can hardly conceive of any book likely to prove of more value to the practitioner than the one before us. It is a compendium of sound scientific knowledge in the form of a volume of such a size and shape as to be never in the way. The new edition—the ninth—is in all respects as well revised as the former ones. It has early in its pages an excellent epitome of the metric system of weights and measures, which

[1] "Oral Surgery," by E. W. Roughton, B.S., M.D.Lond., F.R.C.S.Eng. London: J. P. Segg & Co., 1898.

[2] "The Extra Pharmacopœia," by W. Martindale, F.C.S., and W. Wynn Westcott, M.B. Ninth edition. London: H. K. Lewis, 1898.

we feel cannot do less than greatly increase the growing popularity of such in the minds of many medical men. The sections of the book on sero-therapy and organo-therapy will well repay careful perusal. We can highly recommend our readers to obtain a copy of this book, for it undeniably contains much useful and helpful knowledge.

BEEVOR ON DISEASES OF THE NERVOUS SYSTEM.[1]

THE object of this small book upon diseases of the nervous system is to assist students and practitioners in the examination of patients, and to serve as an introduction to the study of the larger works on neurology. We have full confidence that the book will serve the purposes for which it was written. The diseases are treated in a systematic manner, more space being given to treatment than is usual in text-books upon nervous disease. We miss, however, schemata and diagrams, which are of so much value and assistance to the student in the study of this complicated system.

A HANDY GUIDE TO THE ALTERATIONS IN THE B.P., 1898.

MR. FRANK A. ROGERS, of 327, Oxford Street, W., has compiled and published a handy guide to the new B.P. It consists of an abridged list of all the important alterations in the new issue as compared with the Pharmacopœia of 1885. Medical men will find this compilation most useful for ready reference, inasmuch as it contains in a small compass all the information required in connection therewith.

ADDITIONS TO OUR EXCHANGE LIST.

WE have to acknowledge the following:—*Guy's Hospital Gazette; St. Mary's Hospital Gazette; Magazine of the London School of Medicine for Women; London Hospital Gazette.*

[1] "Diseases of the Nervous System: a Handbook for Students and Practitioners," by Charles E. Beevor, M.D.Lond., F.R.C.P., Physician to the National Hospital for the Paralysed and Epileptic, the Great Northern Central Hospital, and the National Orthopædic Hospital. London: H. K. Lewis, 1898.

THE LIBRARY REPORT.

AN important point has been reached in the history of the Society's Library. The books have been transferred to excellent quarters on the second floor of the new wing of the hospital, well warmed in winter and beautifully lighted all the year round. The books continue to increase in number, but the Society must recognise that, even if no money is spent in buying books, a certain cost is involved in merely taking care of them, and in the furniture necessary for reading and writing. Hitherto our general funds have not been available, owing to the prudence necessary in a Society which, with such a small subscription, undertake the publication of a journal like ours. However, the JOURNAL has proved so successful, and our Treasurer has managed our affairs with so much financial ability, that there can be no doubt the time has come for incurring the moderate expense necessary to fit out and furnish the library, reading and writing-room properly. This forms part of an important general scheme of accommodation now being considered by a Committee of Council, and which will shortly be submitted to a special general meeting.

The subscription to the Book Club in connection with Lewis's Library is 11s. 6d.

BOOKS RECEIVED.

Inflammation of the Bladder and Urinary Fever, by C. Mansell Moullin, M.D.Oxon., F.R.C.S., Surgeon and Lecturer on Surgery at the London Hospital; Examiner in Surgery at the University of Oxford. London: H. K. Lewis, 1898.

The Extra-Pharmacopœia, revised in accordance with the British Pharmacopœia, 1898. By William Martindale, F.L.S., F.C.S., and W. Wynn Westcott, M.B.Lond., H.M. Coroner for North-East London. Ninth Edition. London: H. K. Lewis, 1898.

From our Dead Selves to Higher Things, by F. J. Gant, F.R.C.S. Second and Complete Edition. London: Baillière, Tindall & Cox, and James Nesbit & Co., Lim., 1897.

Presented by Mr. PERCY DUNN.

Surgical Technics in Hospital Practice, by K. W. Monsarrat, M.B., F.R.C.E., Assistant Surgeon Liverpool Cancer Hospital. Bristol: John Wright & Co. London: Simpkin, Marshall & Co., and Hirschfeld Bros., 1898.

The usual Journal exchanges.

POST-GRADUATE TUITION.

By C. B. Keetley.

All the institutions which give post-graduate tuition in London are open during the autumn, but the courses of lectures and demonstrations are suspended until October. The Museum and Library of the College of Surgeons are also open, except in September. The library of the British Medical Association is open throughout the vacation. In the long vacation there are comparatively few undergraduates at the schools, and, of course, this gives more room for graduates. Eight of the twelve teaching hospitals have formed a kind of union to admit graduates to their practice for a common fee.

A movement is reported in favour of building a hospital specially for the clinical instruction of graduates, in some central situation of London. The hospitals which are in existence, and have been gradually developing their post-graduate courses are not favourable to this. Personally, I have nothing to say in its favour. Can anyone suppose that, if such an institution existed, the other hospitals, whether special or general, would send their most interesting cases to what they would regard with no friendly eye. Would the practitioners, unmindful of all their old connections and friends among consultants, send cases for diagnosis and treatment to the new institution? Would patients themselves prefer a place where teaching was professedly put before treatment? It is easy to see that the new institution would simply become a new burden on British charity, competing with existing ones. The idea that it would get for its teaching staff a selection of the most distinguished and able men from the various schools is absurd. Such men are otherwise occupied. Post-graduate courses of the kind most wanted in London are not given by this class of men in any city in the world. The kind of post-graduate course I refer to is one of a number of practical demonstrations, given in rapid succession, *e.g.*, day by day, on a single subject, *e.g.*, ophthalmology, until it is exhausted in the short space of time a country practitioner can spare for a "holiday," if that term can be applied to a period of work.

As for London medical men, the metropolis is so large that no single point in it, however central, is convenient for everyone. Those in the West find a western hospital, those in the North a northern one most convenient, and so on.

A good deal on the subject of this article was said at the West London Hospital dinner, reported elsewhere in this number of the Journal.

THE PAST AND PRESENT WEST LONDON HOSPITAL DINNER.

As was announced in NOTES AND NEWS in our last issue, the decision had been arrived at early in the year to carry out a long contemplated enterprise, namely, that of organising a dinner consisting of the past and present members of the staff, residents, post-graduates and dressers of the West London Hospital. Accordingly in April last an Executive Committee, composed of Dr. Colman, Mr. Alfred Cooper, Mr. Bruce Clarke, Mr. Percy Dunn, Mr. R. W. Lloyd, Mr. C. B. Keetley, and Mr. L. A. Bidwell, as Honorary Secretary, was appointed to make the necessary arrangements, and the festival was duly held on Thursday, May 31, 1898, at the Trocadero Restaurant, Piccadilly Circus. The number of those who dined was upwards of ninety, the chair being occupied by Mr. Alfred Cooper, F.R.C.S., one of the consulting surgeons to the West London Hospital. The old residents present hailed from all parts of the metropolis and the suburbs, also from Eastbourne, Bournemouth, Folkestone, Woking, Hemel Hempstead, and other provincial centres. The post-graduates also appeared in strong force, and among the past members of the staff present may be mentioned Dr. Thorowgood, Mr. Butlin, Mr. Bloxam, Mr. Morgan, Mr. Ballance, Dr. A. E. Garrod and Dr. William Hunter.

The following is the full list of those who accepted invitations to be present.

P. S. Abraham, L. Lloyd Allen, T. Gunton Alderton, James Allen, C. Andrews, F. H. Alderson, C. A. Ballance, J. B. Ball, W. P. Barrett, G. Vere Benson, W. M. Burgess, A. P. Beddard, H. T. Butlin, A. Barry Blacker, L. A. Bidwell, J. A. Bloxham, J. A. Baldock, W. Milne Anderson, W. Bruce Clarke, S. D. Clippingdale, G. L. Cheatle, H. Chambers, Alfred Cooper, H. Davies, M. D. Davies, H. J. Davis, Percy Dunn, J. Churchill Dunn, W. McAdam Eccles, G. Tolcher Eccles, Symons Eccles, Swinford Edwards, A. E. Garrod, W. T. Gardner, A. Granville, A. Harper, Darley Hartley, W. Hunter, Donald Hood, C. B. Keetley, W. Kenny, B. H. Kingsford, F. Lawrance, W. H. Lamb, R. W. Lloyd, Percy Lush, F. H. Lord, T. Ligertwood, F. J. McCann, E. D. McDougall, H. Maudsley, J. Herbert Menzies, J. H. Morgan, J. A. Mansell-Moullin, J. C. Pardoe, V. Pendred, S. Paget, A. Paget, R. D. Pollock, F. C. Poynder, Kelly Patterson, G. D. Robinson, W. B. Rotheroe, R. R. Sutter, S. S. Sprigge, F. F. Schacht, G. P. Shuter, H. Sturge, C. S. de Segundo, L. K. Times, C. M. Tuke, J. C. Thorowgood, Seymour Taylor, W. A. Turner, Maitland Thompson, K. Vickers, F. A. Warner, Clark Wakefield, A. Whitfield, H. Lloyd Williams, G. H. Wade. Among the visitors present were A. H. Clemow, F. R. Mallard, A. P. Woodforde, J. F. Macready, A. Cheatle, H. Campbell Pope, W. Cudmore, C. W. Chapman, H. C. Ross and W. T. Rowe (resident medical officers) and the representatives of the *Lancet*, *British Medical Journal* and *Medical Press and Circular*.

In addition, some of those who had been unable to be present at the dinner joined the company afterwards, among whom were Mr. E. W. Lewis and Mr. R. Lake.

The usual loyal toasts having been duly honoured, the CHAIRMAN proposed the toast of "The West London Hospital," in the course of which he said: "The hospital was opened in July, 1856, and so is only 42 years of age. During this time it has had over 240 medical men connected with it in the capacities of staff, resident medical officers, post-graduates, dressers, and clinical assistants. Among the past members of the Visiting Staff, several are now on the staffs of St. Bartholomew's, King's, University College, St. Thomas', St. George's, Charing Cross, and Westminster Hospitals. One of our past Surgeons (Mr. Christopher Heath) has been President of the Royal College of Surgeons, and another (the late Mr. Ernest Hart) became very prominent as the Editor of the *British Medical Journal*. Two of our past residents have been elected on to the Visiting Staff, and three of them have become anæsthetists to the hospital; several others are now on the staffs of other hospitals, among whom may be mentioned Mr. E. Jackson (Surgeon to the Plymouth Infirmary), Dr. C. H. Taylor (Surgeon to the Derby Infirmary), Mr. G. Cowell (Surgeon to the Westminster Hospital), Dr. Wilks (Physician to the Sheffield Children's Hospital), Dr. Colman (Physician to the National Epileptic Hospital), Dr. McCann (Physician to the Samaritan Free Hospital) and many others.

"The staff of the hospital have used every endeavour to utilise the clinical material at the hospital for teaching purposes for the benefit of the practitioners in the neighbourhood, and it was through the energy of Mr. C. B. Keetley that the West London Medico-Chirurgical Society was started. This society is connected to the hospital by the closest ties. It has reached a very prosperous condition, having nearly 500 members, and has now a journal of its own, the WEST LONDON MEDICAL JOURNAL. The connection between the hospital and the society has been of mutual benefit. In 1883 an attempt was made to start a preparatory school of medicine in connection with the West London Hospital. This, we must admit, was not a success, although it is, I am glad to say, the only failure. In 1888 a series of clinical afternoons were arranged by the staff, and invitations were sent to the practitioners in the neighbourhood, asking them to attend. The attendance was not very encouraging, so the clinical afternoons were discontinued at the end of a year.

"The next attempt at clinical teaching was the establishment of the West London Post-graduate Course, which took

place in October, 1893; since then thirteen courses of lectures have been given; in 1895 it was arranged to extend the post-graduate teaching by inviting the members of the classes to attend the hospital practice, in fact, to make the hospital a Post-graduate School of Medicine and Surgery. The need of such an institution has been shown by the number of medical men from abroad and from the Army and Navy, who have attended at the hospital; we find that these gentlemen are glad to come to a hospital at which teaching is carried out but at which no junior students are attending. As many as eighty-five medical men have attended as post-graduates since the establishment of the courses. The hospital is recognised by the Conjoint Board of the Royal Colleges of Physicians and Surgeons of London, and by the similar body in Edinburgh and Glasgow as a place where six months of the fifth year of study can be spent. The course of ophthalmology is also recognised by the Army Medical Authorities. The last development in the direction of scientific teaching is the establishment of a Pathological Investigation Laboratory, which will be in charge of a trained laboratory attendant who will work under the immediate supervision of certain members of the staff. In this laboratory, besides examinations being done for the hospital, microscopic and bacteriological examinations will be undertaken for practitioners in the district for a small fee. In connection with the hospital and with the West London Medico-Chirurgical Society, a Masonic Lodge (The Cavendish, 2620) has been founded, and this forms another factor in keeping the Masonic members of the Hospital Staff in touch with those practitioners interested in the work of the Institution.

"Lastly, this meeting to-night must be considered as a development of the hospital, and since over one hundred expressed their intention to be present, it may be taken to be a success. Although many of the past residents are prevented from being present on account of the distance at which they reside, they have written expressing their approval of the idea as well as the hope that they will be able to attend on another occasion."

The toast was warmly received, and was briefly responded to by Dr. Thorowgood, one of the Consulting Physicians to the Hospital.

Mr. KEETLEY, in proposing "The Past Residents and Post-graduates of the Hospital," said that a position on the staff of a hospital involved the obligation of giving every facility to other medical men to see its practice and profit by its experience. The best cases were sent in by medical men, and were, of course, *their* cases more than the hospital physician's or surgeon's.

Every conscientious medical man was a life-long student. He read the journals, thought out his cases, made *post-mortems* when the opportunity occurred, read books when he had time, and it was now necessary and possible to occasionally take out post-graduate courses at hospitals. Those gentlemen who had done the last at the West London were almost all superior men whom it had been a pleasure to meet. Many had travelled far, some were of great culture and varied experience; and, especially from Colonials and Americans, he, the speaker, felt he had learned as much as he had taught. He was happy to say that, presently, thanks to the friendly spirit of the House Committee at the West London, they would soon have greatly increased facilities, including a large class-room, a bacteriological laboratory, and the use of a demonstration hall, a library, and a reading and writing room, which they would share with the members of the West London Medico-Chirurgical Society—which he hoped they would all join.

The standard of attainments of the residents at the West London had always been very high, owing to the range of choice the hospital possessed, through its being one of the few London general hospitals where such appointments were open to all comers. When he saw the letters from old house-surgeons, regretting inability to attend this evening's dinner, he noticed that five out of six were on the permanent staffs of some hospital or other. But we had also old residents in large practices in the colonies, we had others teaching in metropolitan and other medical schools, *e.g.*, St. Bartholomew's, Westminster, and Leeds, others again on the staffs of well-known special hospitals like the Samaritan, five upon our own permanent staff, many in high-class private practices, and, if those who had joined the Army Medical Department could inscribe the names of victories on a common banner, we should read there El Teb, Tamai, Suakim, Kerbekan, Burmah, Afghanistan, and the names of places where they were now fighting against that deadly enemy the Plague. Cumming and Bradshaw had both died of typhoid, contracted in performing their military duties. Two admirable young surgeons they were, regretted by all who knew them.

Personally, his experience of the residents had been a happy one, alike in work and "at play." Familiarity, it was said, brought contempt, especially of the elder by the younger. But perhaps what was lost in respect was regained in affection. He coupled with the toast the well-known names of Dr. Schacht and Dr. Darley Hartley. The former's energy as well as his own, which the chairman had kindly referred to, had contributed greatly to laying firmly the

foundations of the West London Medico-Chirurgical Society. The latter was a distinguished South African politician and loyalist, as well as a scientific and highly successful medical man. In coming to study the clinical material to be found at the West London, he had paid the hospital a compliment and set other colonial medical men an excellent example.

Dr. SCHACHT, replying for the Past Residents, said that he quite echoed the general regret at Dr. Wade's not being present to reply to that toast. On such an occasion—the first on which that particular toast had been proposed—he felt that it would have been well if it had fallen into the hands of a senior man who was prepared to do the subject justice. With Mr. Keetley's name associated with the toast the Past Residents knew they would be treated both humorously and with marked kindness. He had much pleasure in returning thanks for the cordiality with which Mr. Keetley's proposition had been received, and for the consideration with which he had exempted them all from classification with the type of resident so graphically described.

Two points suggested themselves especially (on the spur of the moment) out of the many upon which the past residents would be unanimous and with regard to which he (Dr. Schacht) might speak with full confidence. First, he was sure they all felt a great affection for the West London Hospital, in which they had spent such a jolly time, and at which they had acquired invaluable practical experience for future practice. The second point was included to a certain extent in the first, and it consisted in a deep feeling of gratitude and affec tion to all the members of the staff of the West London Hospital for the unswerving kindness and consideration which they had all received. The staff of the Hospital and the Governing Body generally might be perfectly sure that every scheme and enterprise undertaken for the welfare and advancement of the West London Hospital would be supported by all old Residents with the utmost cordiality and enthusiasm.

Dr. DARLEY HARTLEY, replying on behalf of the Post-graduates, said that, although he could not plead the conventional excuse of being "unaccustomed to public speaking," his experience had been in rather more combative arenas than the present. It was, however, with unfeigned pleasure that he embraced the opportunity of thanking all connected with the West London Hospital for much valuable instruction, and for much personal kindness. *Experientia docet*, and his experience, which no doubt was that of those for whom he was replying, was that there were few, if any, better places for post-graduate study than the West London Hospital,

and certainly nowhere a more cordial and painstaking staff, including the sometimes abused resident, who certainly did not treat the post-graduates in the disdainful manner ascribed to some of their kind by the proposer of the toast. From one and all he personally received the utmost kindness, not only from the academic point of view, but socially. When he told them that he, an unknown stranger, owed to one of the staff, that prince of good fellows, Dr. Abraham, the privilege of honorary membership of that most distinguished institution, the Savage Club, and of visiting the almost equally distinguished body, the Cavendish Lodge, they could quite understand that he felt absolutely brimming over with gratitude. And he might, at this stage, justify himself under the severe charge that Dr. Thorowgood had made against him, by pleading that he had been vigorously trying to persuade that gentleman to take a trip to South Africa, in the hope that the presence in the flesh of so able a representative of the scientific and social culture of the West London Hospital might have a beneficial effect upon the practitioners of that benighted country. With reference to the educational work of the West London, he felt that the whole profession owed a debt of gratitude to Mr. Bidwell and his collegues for the gallant attempt that they had made to supply that very great defect in London medical equipment—the lack of post-graduate instruction. He had heard with much pleasure the announcement that the work was about to be considerably extended, and he had also read with interest in the medical journals that a complete Post-Graduate School and Hospital was on the *tapis*. That hospital might, or might not, be the West London, but in any case he felt certain that, whenever it was established, the real credit would be due to the West London staff, who had fulfilled the *rôle* of pioneers. It was a characteristic of Englishmen that, unlike their cousins across the Atlantic, they never reached a full blown scheme all at once. Somebody had to start something modest in a tentative fashion, and provide a foundation for the complete edifice. To the founders of the small beginning belonged the real credit, and this ought to console them if they felt any discouragement because the institution did not seem quite as complete as they would wish. But the hospital, even as it was, furnished most valuable instruction, and only wanted a museum, laboratories and reading-room to make it absolutely complete. As to the great and increasing value of the work there could be no doubt. The M.D. degree of Durham, the F.R.C.S., the M.R.C.P., and the London M.B., under the modified regulations, demand a large number of mature practitioners who had to resume systematic study for examination

purposes, while the projected reform of the Army Medical Staff would, in a very short space of time, render it possible, by putting an end to the present condition of undermanning, for many medical officers to obtain leave for purposes of study. In addition there must be a large number of general practitioners, especially in London and its suburbs, to whom the opportunity of doing occasional hospital work was almost a necessity, while the class of colonial practitioners to which he belonged, were not doing their duty to the public unless they occasionally renewed their connection with the centres of medical light and leading from which geographical exigencies cut them off. But to none of these men were the great medical schools of much use, partly because a graduate felt a natural diffidence about getting in the way of students, and partly because it was impossible to teach students and practitioners in exactly the same way. Then visits to the special hospitals, scattered as they were, and working without concert, involved a terrible waste of time. The West London Hospital, to a very great extent, filled the gap. It possessed ample clinical material, and a most admirable teaching staff. Indeed, without any wish to make invidious distinctions, he could not refrain from singling out two of the staff, Dr. Seymour Taylor and Mr. Eccles, as having mastered more completely than any one else he had met, the art of utilising the out-patient department for post-graduate teaching. They seemed instinctively to realise what a post-graduate did not know, and what he ought to be taught. In concluding, he thanked those present for the very hearty way in which they had drunk the toast, and assured them that he should carry home with him across the sea the most pleasant recollections of the West London Hospital.

"The Visitors" was proposed by Mr. SWINFORD EDWARDS, and replied to by Dr. CAMPBELL POPE, who in the course of his remarks said that he sympathised very much with the observations made by Dr. Darley Hartley as to the admirable facilities offered by the West London Hospital for a post-graduate school and clinique, while the recent determination of the Hammersmith Vestry to expend a large sum of money in the building of a Technical Institute near the hospital, might afford such facilities for practical scientific studies in connection with such a post-graduate school as would make the district notable in medical education.

"The Past Members of the Staff" was proposed by Dr. F. H. ALDERSON, and acknowledged by Mr. BLOXAM.

The health of "The Chairman" was next proposed by Mr. H. T. BUTLIN, the toast being received with musical honours, and Mr. COOPER, in responding, gave that of "The Honorary Secretary."

Mr. BIDWELL, in returning thanks, said the success of the dinner was due, not to his exertions, but to the interest which those who had been connected with the Hospital had taken in it. He mentioned that several old residents had written approving highly of the idea of the dinner, and hoping that they would be able to attend another year. Under these circumstances he thought that the dinner should be held again next year, and if this was agreed to he would be most happy to organise it again. He said that to do anything which helped to knit together the past residents, post-graduates and staff, was a source of the greatest pleasure to him, and the success of this dinner amply repaid him for the slight trouble involved.

In the course of the evening some songs were sung by Dr. Campbell Pope.

THE ANNUAL CONVERSAZIONE.

THE Annual Conversazione in connection with the Cavendish Lecture took place on Friday, June 24, 1898, and in point of attendance was the largest and most successful of the meetings of the Society ever held, the number of the members and their guests at one time exceeding 150. The Vestry Hall, Hammersmith, was gaily decorated with palms and plants for the occasion, and the advertisers with their exhibits spared no pains to add to the attractiveness of the scene. No less than twenty firms availed themselves, as annual advertisers in the JOURNAL, of the offer of free space for an exhibit, and under the able painstaking management of the Editorial Secretary the arrangements in connection therewith were most successfully carried out. After a hearty vote of thanks had been passed to Mr. Howard Marsh for his Cavendish Lecture, proposed in an excellent speech by Dr. Clippingdale, seconded by Mr. Bruce Clarke, a string band took possession of the platform and discoursed pleasant music during the remainder of the evening.

The following is a full list of the exhibits :—

Messrs. Cooper & Co. (80, Gloucester Road, South Kensington, S.W.)

One of the most tasteful and artistically arranged exhibits was that of Messrs. Cooper & Co., manufacturing chemists. The predominant feature of their display consisted of samples of their oxy-carbonated mineral waters, of which they are the sole manufacturers. These waters can be highly recom-

mended as being of very high quality and excellent preparation. In addition they showed many of their special therapeutic compounds, such as liq. quininiæ salicylatis, which has been found of great use in chronic gout, rheumatism and the sequelæ of influenza; also that elegant preparation, the compound syrup of the glycero-phosphates of lime, soda, potash, iron and magnesia, for use in nerve weakness, and the sinapine tissue, or mustard leaflets, perhaps the most convenient mode of applying counter irritation by mustard now before the profession, and many others.

The Maltine Manufacturing Company, Ltd. (24 and 25, Hart Street, Bloomsbury, E.C.).

The Maltine Manufacturing Co., Ltd., had an excellent display of their well-known and popular preparations of Maltine with Cod Liver Oil, Maltine, and many others, the therapeutic value of which is so thoroughly recognised by medical men. To say more of the valuable products of this firm would be merely to repeat that which is already well known to the profession.

Messrs. Down Bros. (21, St. Thomas's Street, Borough, S.E.)

The exhibit of this firm included—Sets of Aseptic Minor Operation and Pocket Dressing Instruments, the cases and most of the instruments contained in them being of original design. A new registered Surgeon's Bag for carrying instruments for out-door operations, containing a useful form of steriliser, metal receptacle for dressings, a very practical and aseptic ligature holder, drainage tubes, nail brush and soap receptacles, and ample space for instruments, &c. Some very interesting instruments for skull surgery were shown, among others Van Arsdale's Saws, worked by means of a cable attached to a powerful hand motor. The mode of operation is first to make a circular opening with a trephine attached to the motor, and then to insert one of the circular saws, which are so made as to revolve in a circle of two and a-half or three inches diameter. By allowing two segments of a circle to intersect each other, heart-shaped pieces may be removed. Burs, drills, and other appliances may be used with this motor. Another interesting set of instruments for the same purpose consisted of Gigli's Fine Fret Saws. Two small circular openings about 1 cm. in diameter are first made, and then by means of a director and spatula a fine fret saw is threaded through from one opening to the other. Square-sided openings to any extent or any shape may be made with the help of this instrument. Among other features were Mr. Arbuthnot Lane's set of instruments for screwing or suturing bone for use in cases of ununited fracture, &c. Aseptic Hypodermic and Antitoxin Syringes. New forms of Automatic Wound Retractors, by Mr. Fleming of Bath, Mr. Jordan Lloyd of Birmingham, and Mr. Lucy of Plymouth. All these models would be likely to prove useful in cases where surgeons operate single-handed. There was also a Portable Operation Table by Mr. Jordan Lloyd of Birmingham. This forms a perfectly firm table, but can be folded up into small compass, and then fits inside a waterproof cover with convenient handle for carriage. Also Mr. Cock's new Mouth Gag, with special arrangement for giving the anæsthetic in mouth operations, and a spring releasing catch which allows it to be easily removed from the mouth, and new forms of Irrigating Trays, by Mr. Strangman Grubb of Ealing, Dr. Milburn of Hull, and Mr. Lucy of Plymouth. These models would all prove useful, but the former especially so for midwifery in the hands of the general practitioner. Then there was Nurse Steer's Portable Bed Cradle. This is a thoroughly efficient appliance for its purpose, and possesses the additional advantage of being portable. The ordinary bed cradle is a difficult article to stow away when not required, but this new form folds up, and occupies little room. Lastly, we noticed a new patented form of Clinical Thermometer, made at the suggestion of Mr. Vernon of Bournemouth, and is so bent us to easily fit

under the tongue. Altogether this exhibit was a specially noteworthy one, and amply represented the enterprise and excellence of workmanship for which this firm is famous.

Messrs. Oppenheimer, Son & Co., Limited (Victoria House, Victoria Embankment, E.C.).

Messrs. Oppenheimer, Son & Co., Limited, of Victoria House, Victoria Embankment, E.C., had, as usual, an excellent display of their well-known pharmaceutical products, among which Palatinoids and Bipalatinoids occupied the chief place. It is hardly necessary to enlarge here upon the many advantages which this form of administering medicines possesses over the older methods, but it will suffice to say that when the most nauseous drugs, whether liquids or solids, are enclosed in a soluble coating as a Palatinoid, they may be swallowed with the same facility as an ordinary jujube. Before noticing the newer formulæ, attention may be drawn to some of the advantages which Palatinoids of liquids possess over ordinary mixtures. Palatinoids of amyl nitrite, ether, &c., when enclosed in a gelatinous coating instead of glass, entirely obviate any danger in cutting the fingers when such drugs are required for inhalation, while Palatinoids of chlorodyne, chloroform, carbolic acid and creasote ensure accuracy of dosage combined with elegance and convenience. The most recent additions to the list of Palatinoids includes several novel combinations, which are of special interest to gynæcologists, for instance, Palatinoids of hydrastin with cotarnin co., which consist of the hydrochlorides of hydrastin and cotarnin with ergotin, and cannabin tannate, a formula of high repute in metrorrhagia, leucorrhœa, &c. Palatinoids of Senecio aureus —this plant is a species of ragwort, and is very largely employed in America as a diuretic and emmenagogue. Other preparations are Palatinoids of red marrow, manganese dioxide, viburnum co., and iron, quinine, arsenic and nux vomica. The Bipalatinoid of ferrous carbonate was shown with all its various combinations, there being no less than seventy of such formulæ now issued by the firm. That it is a great advance on the original Blaud's formula there can be no doubt. One combination was especially interesting, viz., ferrous carbonate with red marrow, which is said to give excellent results in those cases of anæmia which fail to react to either iron or marrow treatment alone. There was also a large selection of Concentrated Liquors for which this firm are famous, two old favourites being liquor caulophyllin et pulsatillæ co., and liquor euonymin et pepsin co. Of instruments, the Globe Nebulizer and Universal Vaporizer must certainly take first rank for efficacy of action and novelty of construction; both are on the same principle, but the Universal Vaporizer is a smaller instrument suitable for patients' use. The essential construction of the instrument consists of an internal spray, which is split up by striking the globular surface of the bottle; the fine particles resulting from the division of the primary spray are then forced through the tube into the air in a real nebula, the particles of which are in such a state of fine division that when the spray is allowed to play upon a sheet of paper no marks are apparent thereon. By means of various tubes the nebula produced may be inhaled into the lungs, and the treatment continued for months without causing irritation. A new Hypodermic Case also attracted a considerable amount of attention. It is held out as a combination of the good points of all hypodermic syringes at present in the market. Several valuable features obtained from syringes in use in German laboratories and American hospitals will be found incorporated in this instrument, while the special construction of the case enables the whole to be readily sterilised either by dry heat or by washing with any of the numerous antiseptic solutions generally in use. Other interesting products were Cream of Malt, various Digestive Ferments, and a large variety of Medicine Cases and Chests, one of which was a duplicate of those supplied to Major Gibbons for his recent expedition to Central Africa.

Messrs. Oppenheimer are to be congratulated upon the attractiveness and excellence of their exhibit.

Messrs. Parke, Davis & Co. (21, North Audley Street, W.).

The important exhibit of this firm included the following:—Anti-diphtheritic Serum in hermetically sealed bulbs, containing 1, 2, 3, and 4 cc. of the serum, representing 500, 1,000, 1,500 and 2,000 antitoxin units respectively. Quality and potency are certified in each instance by the Director of the Laboratories of the Royal College of Physicians, London, and Surgeons, England. Taka-diastase, in powder and in compressed tablets of 2½ grains each—the average adult dose. This will convert a hundred times its weight of starch into maltose sugar in ten minutes under proper conditions, and many times that quantity during the ordinary digestive period of each meal. It is the only trustworthy diastase for the treatment of amylaceous dyspepsia. Nuclein Solution, 5 per cent. This is adapted for both hypodermic and oral use. The phagocytic action of yeast cells is here used for therapeutic purposes. It has given trustworthy results in cases of indolent ulcers, diphtheria, typhoid fever, and especially in tuberculous diseases of all kinds, as, for example, phthisis and lupus, &c. The Nuclein Syringe was shown, for the subcutaneous injection of nuclein, also the well known Hypodermic Syringe of this firm, which clearly possesses many approved features. The Hypodermic Stock Cases were well worthy of notice, containing approved assortments of hypodermic tablets. These last are immediately soluble, and are noteworthy in that the solution may be made in the barrel of the syringe, and consequently no solution need be made separately previous to injection. There were also on view the Rennin Tablets for the prompt manufacture of curds and whey, &c. for dietetic purposes. Another preparation was that of Euthymol, a liquid disinfectant, non-poisonous and non-escharotic, and very useful for cleansing the skin before operations and the disinfection of all instruments, &c., it is also adapted for surgical dressings and for general household use. The Ethereal Antiseptic Soap (Johnston's) shown by this firm is a valuable liquid preparation of soap for use in the operating theatre, *post-mortem* room, and for the disinfection of the surgeon's hands. It has also been highly recommended in the treatment of eczema and other skin affections. This firm claim for their Pepsin preparations—of which a complete series was on view—that their Pepsin is aseptic and of trustworthy digestive power, being capable of digesting from 1,000 to 1,500 times its weight of coagulated egg albumen, according to the test of the U.S.P. The liquid preparations of the same still maintain their popularity for palatability, and in this connection special mention may be made of the "Pepsin Cordial." Microscopical slides were shown of various pathogenic micro-organisms, prepared in the firm's biological department, Messrs. Beck having lent some microscopes for the purpose of the exhibit. The novelties contained in this exhibit excited much interest, as was proved by the large number of those present who inspected

The Electro-Neurotone Co., Limited (35, Westcroft Square, Ravenscourt Park, W.).

An unpretentious but meritorious exhibit was that of the Electro-Neurotone Co., Limited. The apparatus shown represented the instruments which are now generally known and appreciated by the profession. Some further models of combined Neurotone Instrument and Battery Boxes were also exhibited for the first time. Mr. Hodgkinson (the inventor) was in attendance, and certainly increased the number of his medical patrons by reason of the practical explanation of the advantages of the apparatus. The exhibit attracted much favourable notice.

Messrs. Arnold & Sons (26, 30, 31, West Smithfield, E.C.).

Messrs. Arnold & Sons had a large and important display of instruments and surgical appliances for which the firm is noted. Special mention may be made of the Phonophore (the improved stethoscope), the Aseptic Cabinets, the Ackland Mouth Gag, the new Army Regulation Amputation Case. Also the improved Reliance Personal Weighing Machine, of the usefulness and excellence of which we have already had occasion to speak.

Mr. F. Davidson (107, Great Portland Street, W.).

Mr. Davidson showed and demonstrated the use of his special appliances for rapid sight testing. His latest introduction is a new Trial Case, included with which is his ingenious "Complete Sight Test" Card and his Manual on Sight Testing for the general practitioner. He also showed the "Readorite," a combination reading and writing desk with a bi-cylindrical lens. His specialities attracted much attention. It may be pointed out that the new Trial Case above mentioned is very moderate in price, being about 25 per cent. cheaper than that usually charged.

Messrs. G. Van Abbott & Sons (6, Duke Street Mansions, Grosvenor Square, W.).

This firm had a large exhibit of their well-known preparations for diabetic patients. We noticed Gluten Bread and Flour, Soya Bread and Biscuits, and Soya Flour, also gluten in flakes, and soya beans from which the bread and biscuits are made. There were also samples of Real Turtle Soup, Mock Turtle, Oxtail and Gravy Soups, especially prepared for diabetics. An elegant and useful preparation was the Hypophosphite of Lime Biscuits for delicate children, and the same may be said of the digestive biscuits for adults and children in whom there is weak digestive power.

The Hammond Typewriter Co. (50, Queen Victoria Street, London, E.C.).

One of the most interesting exhibits was that of the Hammond Typewriter Co., in which was displayed two of their latest improved machines, the "Ideal" and "Universal," in conjunction with the latest Edison commercial phonograph. The interest displayed therein by the members and the guests was very great, judging from the numbers which surrounded this exhibit. The Hammond Co. are showing, among other improvements on the latest machines, a special medical type-shuttle, comprising the signs used in writing prescriptions and chemical formulæ. This improvement meets a long-felt want of medical practitioners. The "Hammond" typewriter is especially adapted to the use of members of the profession on account of its extreme simplicity and the ease with which it can be learned and manipulated. The writing is in full view, different styles of type can be used or any size or width of paper. The "Hammond" with the ideal keyboard is a unique arrangement, the characters being so placed as to bring 60 per cent. of the letters used in the English language within easy reach of the fingers of the right hand. The "Hammond" produces the neatest writing we have ever seen.

Newton, Chambers & Co., Ltd. (Thorncliffe, near Sheffield, and 331, Gray's Inn Road, London, W.C.).

This was one of the best and neatest displays, including the Izal disinfectants, Izal soap, bar soap, soft soap, toilet soaps, and medical soaps. Izal is a non-poisonous, non-corrosive disinfectant, and is a most active disinfectant and a trustworthy antiseptic, and has been adopted for use by three important

departments of H.M.'s Government, namely, by the War Office, Admiralty, and H.M.'s Office of Works. Izal possesses high germicidal power, as is proved by the bacteriological examinations of Professors Klein and Delepine. Izal Fluid and powder is largely used for disinfecting purposes. Izal Medical Fluid is specially refined for use by medical practitioners. Among the extensive list of Izal preparations is Izal gauze, cotton wool and lint, as well as Izal Perles, Cream Ointment, Lozenges, Embrocation and Tooth Powder. Izal Perles are held to be most useful in cases of typhoid fever, and have given good results, and proved efficacious when other drugs have failed.

Messrs. Burroughs, Wellcome, & Co. (Snow Hill Buildings, E.C.).

The exhibit of this firm was a large and attractive one, and included many novelties. Foremost among these was the ingenious and convenient "Water Analysis Case," containing litre flasks, boiling flasks, lamp, &c., filter papers and various test soloids, such as the chromate, ferrocyanide, iodide, and permanganate of potassium, and other necessary reagents. Mention may also be made of the "Enule Rectal Suppositories"—a perfectly novel preparation for the administration of remedies *per rectum*. The tabloids of effervescing mineral waters, such as Vichy, Seltzer, Carlsbad, Kissingen, &c., were also exhibited, a method of administering these waters which is likely to become very popular. A complete exhibit was on view of the "Tabloid" photographic chemicals of which this firm has made so large a speciality, and which have now become so indispensable to photographic work. Altogether this display was a very interesting one and attracted much attention.

Mr. Frank A. Rogers (327, Oxford Street, W.).

Mr. Frank A. Rogers had an interesting exhibit of his well-known appliances, in addition to some novelties which he has just introduced. The following may be noticed:—Rogers' "No. 1" Spray for the nose or throat, regarding which many medical men have written in high praise; a new "Consulting Room" Spray consisting of a spray which fits into six specially designed stoppered bottles, fitted on a revolving stand. The special advantages of this spray are (1) that it can be used in the left hand, leaving the other entirely free for operative or other purposes. (2) It will spray either watery or oily liquid. (3) By an ingenious contrivance an alternative lip for nasal, post-nasal or laryngeal use can be immediately fitted. (4) Several different solutions can be used with the one spray. The appliance can, if desired, be had with a metal cover, thus keeping it free from dust and ready at a moment's notice. In addition to the above were the following:—

Small Pocket Insufflators; Small Pocket Atomisers for oily solutions, &c. "Hypodermules," the new and unique method, devised and introduced by Mr. Rogers, enabling medical men to have at hand *ready at a moment's* notice *sterilized* solutions containing an accurately measured dose in each receptacle. Pocket cases, containing an assortment of "Hypodermules," and a specially devised and sterilisable hypodermic syringe. An abridged list, specially compiled by Mr. Rogers for the convenient reference of medical men, of the alterations in the B.P., 1898, as compared with the edition of 1885, intended for the pocket book, and condensed into the smallest possible space. (A copy will be sent post free to any medical man.) Mention is made elsewhere in the JOURNAL of this compilation. A new Glycerine Syringe, Convertible Douches for the nose, ear or eye on the principle of Higginson's Enema, and a Tongue Depressor, with transparent shield, specially intended for use with diphtheritic, syphilitic or other infectious cases, were also shown.

Messrs. Fairchild Bros. & Foster (New York) (Agents, Messrs. Burroughs, Wellcome & Co.).

Messrs. Fairchild Bros. & Foster made an attractive display of the three products which they are now especially bringing under the notice of medical

men in this country and America. The first is Peptogenic Milk Powder, a rational development of their Zymine Peptonising Tubes. This powder, when added to cow's milk or water and cream, furnishes a food very closely resembling human milk—humanised milk. The second is Panopepton in a mixed diet of prime lean beef and wheaten flour, thoroughly cooked, peptonised, and preserved in sherry. It is very palatable, and is claimed to be of great use in cases of mal-nutrition arising from feeble digestive power. The third is Pepsencia, an agreeable digestive essence, containing the rennet ferment, as well as the peptic; it is very satisfactory for making junket and whey. All the above preparations are elegant examples of the pharmaceutical art and can be highly recommended.

Mr. B. Kühn (36, St. Mary-at-Hill, E.C.).

Mr. B. Kuhn made a comprehensive show, including all his specialties in pharmaceutical preparations, the latest additions to which may here be specially mentioned. The range of valuable preparations of the now well-known antiseptic and disinfectant—Chinosol—has lately been greatly enlarged, and of these were shown Chinosol Lanoline Ointment and Chinosol Lubricant Jelly; the latter is especially intended as a lubricant in midwifery. Chinosol Sanitary Tablets are a specially handy form for the prompt production of disinfecting and deodorizing fluids to be used in hospitals, sick rooms, &c., to destroy fœtid emanations, for the bathing and washing of patients recovering from infectious diseases, and for personal use in the bath, &c. Chinosol Antiseptic Lozenges for use in sore throat, tonsillitis, &c., also in diphtheritic angina, typhoid fever, dysentery, &c. Chinosol Antiseptic Digestive Lozenges contain,—besides chinosol, 1 grain pepsin, which combination constitutes a valuable digestive lozenge in gastric fermentation. Among the newly-introduced pharmaceutical preparations may be mentioned Iodoformogen, which is a chemical compound of iodoform and albumen, possessing little or no smell, in which the penetrating odour of the former is totally absent. It occurs in a very fine powder, which is non-hygroscopic and does not cake; it is about one-third of the weight of iodoform; for these reasons Iodoformogen is a very useful dusting powder for wounds. Also Tannalbin-Knoll, a non-toxic intestinal astringent. It occurs in a granulated powder of scarcely any taste, is not dissolved by the gastric juice, but is decomposed in the alkaline secretions of the intestines. It is indicated in acute and subacute and chronic enteritis, dysentery, cholera infantum, &c. Tannalbin Tablets contain 5 grains tannalbin, and are a most convenient form for the practitioner to use. These tablets are either crushed and administered like a powder or crunched and taken with or without water. The other exhibits included Diuretin-Knoll, Colchi-Sal Capsules, Betul-Ol, Papain-Finkler, Ethyl-Chloride and Anestile, all preparations already well known to the medical profession.

Mr. Walter Severn (the West End Pathological Laboratory, 55, Weymouth Street, W.).

Mr. Walter Severn, of the West End Pathological Laboratory, exhibited specimens of the various kinds of work undertaken there. Everything that can possibly be required by medical men in the direction of laboratory work as an aid to diagnosis appears to be well done at this institution. Examples of pure cultures of bacteria, drawings, photomicrographs, lantern slides, skiagrams, serum reactions, and microscopic preparations under microscopes were exhibited. Among these latter were sharply stained preparations of the bacillus of bubonic plague, micrococcus of Malta fever, streptococcus meningitidis cerebrospinalis, bacillus in catarrhal ophthalmia, bacillus xerosis conjunctivæ, and various others. Among the cultivations were also those of the plague from various sources, bacillus, chromo-aromaticus, Malta fever, and some beautifully characteristic "stab" cultures of liquefying organisms, rendered permanent by formalin. This exhibit was largely visited by those present.

Messrs. John Bale, Sons & Danielsson, Limited (85, 87, 89, Great Titchfield Street, W.)

A neat and attractive display of books, diagrams, clinical figures, physiological lantern slides, &c., &c., was that of the above firm, who are the printers of this JOURNAL. Judging from the large number of medical authors who are now on their publishing list, this firm is making steady progress as medical publishers, and the convenience of having ready access to an artist who is capable of producing such excellent work as Mr. Danielsson, upon the same premises, has doubtless been frequently experienced by authors desirous of making art work a feature of their publications.

Messrs. Welford & Sons (Dairy Co.) Ltd. (Elgin Avenue, Maida Vale, W.)

Messrs. Welford & Sons had a large and important display of their well-known Milk Preparations, among which may be especially mentioned facsimile Human Milk, Peptonised Milk, Sterilised Milk (a valuable preparation) and Koumiss. The care and scientific precision with which these commodities are prepared have deservedly brought them into high favour with medical men, and this firm is to be congratulated upon their enterprise and ingenuity in providing milk preparations of so much value in the nursery and the sick room.

Hunyadi Janos Natural Aperient Water (Andreas Saxlehner, Buda-Pest, Hungary, and Trafalgar Buildings, Charing Cross, W.C.)

This exhibit was a tastefully arranged display of the well-known and popular Hunyadi Janos Aperient Water. This water has now been for many years before the public and the profession, and it still, we believe, occupies the premier place as the most popular and most frequently prescribed of all waters of the kind. As an aperient it is safe and efficacious having no ill after-effects, and as such can always be confidently recommended.

Mr. T. Hawksley (357, Oxford Street, W.).

At Mr. Hawksley's exhibit much attention was centred upon his new Milk Steriliser, for use in the artificial feeding of newly born infants. The apparatus is a modification of that used by Dr. Budin, Accoucheur de la Charité, Paris, and has already been very favourably noticed in a previous issue of the JOURNAL. We may add that it is moderate in price, and this fact, taken in conjunction with its ingenuity and efficiency, should soon command for it a large sale. Among other features shown was "Hawksley's Patent Infant Weighing Machine," an apparatus which should be in the hands of every medical man practising largely among children.

Male Nurses' (Temperance) Co-operation.

THE Secretary of the Male Nurses' (Temperance) Co-operation (10, Thayer Street, W.), writes:—

"You may be interested to know that the fourth year of our existence has been a most successful one. The average earnings per man have been at the rate of £102 3s., after paying all expenses. This result has been arrived at, not by excessive but by moderate charges, and careful management in maintaining a staff, not too large, but just sufficient to meet all requirements. There has been a considerable increase in the staff during the year, and the

Association is now by far the largest of its kind in the Kingdom. The Sick Fund established at the beginning of last year has been drawn upon only to the extent of 8½d. per member. The tendency to employ male nurses for male patients is decidedly more marked; this Association, which has grown to be such a large concern in so short a period without any of the older establishments reducing their staff to any appreciable extent, is sufficient evidence of this. We are constantly receiving applications from provincial hospitals which require the services of young men with some Asylum experience for employment in the male wards and generally about the hospital. This may not seem much, but is an advance on the old order of things, and a step towards the opening of male wards in general hospitals to male nurses for training; not to compete with the female nurse, but to relieve her of certain duties which she ought not to be called upon to perform."

The Yarrow Home for Convalescent Children, Broadstairs.

THIS home was founded in 1895, and is fully endowed. It is situated on a hill overlooking the sea, at Broadstairs, and contains accommodation for fifty girls and fifty boys, children of the better classes.

Having paid a visit of inspection to the Home we can speak in the highest terms of the excellence of the building, of its sanitary arrangements, and of the methods employed in warming and ventilation. The efficiency of the staff is beyond gainsay. The nursing staff, numbering eight, is under the able supervision of the Matron, Miss Power, who has previously held responsible posts at St. Bartholomew's Hospital, and Great Ormond Street Children's Hospital.

It is satisfactory to note that a new Isolation Block has been built, for the reception, if need be, of fourteen children. There is now therefore only the remotest chance of any infectious disease spreading.

The beneficial effects of the climate of Broadstairs are well known, and this not only in the summer months, but also in the winter. The Home is specially adapted for the temporary residence of convalescents in these latter months, being so well warmed and ventilated throughout. The grounds, of ten and a-half acres in extent, have many sheltered walks and shrubberies.

The Trustees desire it to be known that no subscriptions are received, as the Home is fully endowed, but they wish that it may be more fully utilised. Parents are required to pay the sum of 5s. a week towards the maintenance of the child. The Secretary (Mr. Myers, 73A, Queen Victoria Street, E.C.) will always be pleased to give any information to any who apply to him.

The Esmond Cycle Saddle.

SOME months ago we had the Esmond Cycle Saddle submitted to us. Of the many varieties of saddle which we have tried, none are more satisfactory. The Esmond is a rocking and yet stable support. It is practically on a universal joint, and by its use there is no possibility of soreness, local pressure or jolting. We can strongly recommend it as being, in our opinion, the best saddle in the market.

NOTES AND NEWS.

RATHER more than ten years ago I chanced to look in at the well-known sale rooms, in New Bond Street, just when a large lot of medical books was being put up for auction. The lot consisted of old volumes of the *Lancet*, Dr. Ransome's *Half Yearly Abstracts of the Medical Sciences*, and the *London Medical Gazette*, about thirty-six in all—price five shillings under the hammer. I have always congratulated myself upon the investment. It is astonishing how interesting the various volumes have proved. To dip into the pages of the medical journals of half a century ago is a pastime which has many attractions, despite the mingled feelings which it is bound to excite. Moreover, it affords the reader of the present day many opportunities of feeling grateful that his lot was not cast at the time when the streptococcus, the staphylococcus and their boon companions, had a "high time" in almost every wound that a surgeon made.

THE vast changes which have come over the scene, so far as wound treatment is concerned within the past quarter of a century, may be illustrated by the following:—*Surgeon* (1870): "Well, Mr. Jones, how's the woman with the amputated breast?" *House-Surgeon:* "Doing exceedingly well, sir; the wound is suppurating nicely." *Surgeon:* "That's all right." Present day. *Surgeon:* "I suppose the amputated breast case is going on well." *House-Surgeon:* "No, sir, I'm sorry to say it's suppurating." *Surgeon:* "What . . . Who. . . . Let me see it——Where's the dresser?"

IN one of the volumes above referred to, namely, the *London Medical Gazette* for 1846, I recently came across the following announcement, which will probably be of some interest to the members of our Society. "THE WEST OF LONDON MEDICO-CHIRURGICAL SOCIETY. The physicians, surgeons, and general practitioners of the western suburbs of London are about to form among themselves a new medical society, to be named 'The Western Medical and Surgical Association,' for the advancement of the healing art and its subservient sciences." This would seem to show that there was a society, in several ways almost identical with our own, founded in the west of London more than fifty years ago. On further investigation it seems that the "Western Medical and Surgical Association" came into existence in 1845 and clung to life till 1871, when it expired

from inanition. Its meetings were held in a house in Sloane Street, on alternate Fridays, between October and May, and among its presidents were several very distinguished men.

On April 12, 1850, the Society held its Fourth Annual Meeting, the Presidential Address being delivered by Sir Benjamin Brodie, followed by a conversazione—an egregiously impertinent anticipation of our arrangements in the present day. The great "draw" upon this occasion was the exhibition of the original sketch of John Hunter, by Sir Joshua Reynolds, from which the latter afterwards painted the celebrated portrait now in the possession of the College of Surgeons. The sketch was given by John Hunter's widow to the uncle of a Mr. Wright, of West Brompton, by whom it was lent to the Society for exhibition. It would be interesting to know what has become of this sketch.

It must be admitted, too, that the Society anticipated us in the formation of a library, for a great feature of this was made from the beginning. A large number of books was thus collected, approaching, I believe at the end, about 3,000. They chiefly came from the then existing Chelsea and Brompton Medical Society, which was a medical book club. When the "Western Medical and Surgical Association" came to take part in that last scene of all which ended "its strange, eventful history," it bequeathed its Library to the Medical School of St. George's Hospital, to which institution a large number of its members belonged.

The cause of death of the Society was attributed to the great decrease in the number of members, owing chiefly to the establishment of other London Societies. At the end of the fourth year of its existence its membership amounted to sixty, but what the numbers were after this does not appear in any report that I have seen. It goes without saying, however, that a Society which lived for twenty-six years must have accomplished much good work in its time, and even if its death was inevitable there is no reason for supposing that it was not thoroughly deserving of an excellent epitaph. At the end of the sixteenth session our membership consists of five hundred, and—but this seems like boasting, and boasting does not do.

The days have happily long ago passed when it was rather a misfortune than otherwise to be a great man. To show much originality and independence of spirit, and to make great discoveries had not infrequently the disagreeable effect in earlier days of bringing upon a man the punishment of

death. Apparently those possessing great intellects, who soared far above lesser endowed mortals, became a source of fear to their contemporaries, and, lest their commanding work should cause the upheaval of old and cherished traditions and regulations, their removal came to be regarded as imperative. Poor Socrates was an instance in point; again Seneca, whose life I have just read, had a particularly trying ordeal through which to pass before his life was taken from him. He was condemned to death, and to accomplish this the veins at the bend of his elbows were opened, but the process proving a slow one, the "veins of his legs" were also opened. Still he continued to live. Accordingly a solution of hemlock was administered to him, but this was ineffectual. His attendants then becoming desperate, he was placed in a warm bath, and as he still refused to die he had at last to be suffocated in a vapour stove—clearly "a stuffy kind of death," as the Lord High Chancellor in the "Mikado" would describe it. To mention one more instance, Galileo had to suffer many things in consequence of his marvellous intellect, and quite possibly if Sir Isaac Newton had lived anywhere else than in England his career would have been shortened, and schoolboys would have had less to learn of mathematics than is now the case.

THE Cavendish Lodge has met twice during the past quarter. In April Bros. Jackson, Clarke and Cudmore were raised to the third degree, and Dr. Harrison Low and Mr. Lloyd Williams were admitted into Freemasonry. In June Bros. Russell Wells and Beresford Potter were raised to the third degree, and Bros. Low and Lloyd Williams passed to the second degree. A ballot was then taken for the W.M. for the ensuing year, and Bro. Symons Eccles, S.W., was unanimously elected. Bro. J. Herbert Menzies was also unanimously re-elected Treasurer, and Bros. Alderton and R. W. Lloyd were elected members of the Audit Committee. The W.M. (Bro. Phin. S. Abraham) announced that he had received as contributions from the members of the Lodge, for the Building Fund of the Masonic School for Boys, the sum of £53 10s., and that he was present, as the Steward of the Lodge, at the Festival Banquet held on June 7 at the Albert Hall, the Most Worshipful the Grand Master, H.R.H. the Prince of Wales, in the Chair. The total sum collected upon the occasion amounted to £134,000.

THE scheme adopted by the Council to take the top floor of the new wing at the Hospital and furnish it with a view to making it the "House" of the Society, has met with general approval. The Committee of the Hospital has

generously agreed to find all the necessary cleaning, lighting and warming, in return for an honorarium from the Society of £20. The main ward it is proposed to use as the Society's meeting room, library, &c., and to fit up the "Sisters'" room as a fully equipped reading-room; in addition there will be lavatories, offices, and several store rooms. The scheme will include the housing of the members of the Post-Graduate School in the same quarters, by which arrangement the indebtedness of the Society will be much reduced. The members of the Society will be interested to learn that our founder, Mr. C. B. Keetley, was the originator of the above enterprise.

THE "Expert Medical Aid Committee," whose prospectus was launched upon a confiding medical public about a fortnight ago, does not call for criticism here inasmuch as the scheme has already been "torpedoed" by the weekly press. However, the following communication, which has been sent me by a well-known member of the Society, throws quite a new light upon the situation, and the suggestions it contains are so distinctly novel that the ladies and gentlemen forming the "Expert Medical Aid Committee" should lose no time in giving them their earnest consideration.

"I am a young London consultant and specialist, and am delighted with the proposals of the 'Expert Medical Aid Committee,' consisting of Dr. Hugh Woods, several eminent clergymen, and a number of distinguished ladies of title. I used to hope that, with good fortune, and as my seniors gradually retired from the field, I might slowly build up a practice. But I am by nature a little impatient, and am more than pleased to find the path to success made so much smoother and quicker. Besides the numerous unexpected 10s. 6d. and £1 11s. 6d. fees I shall receive, I shall save about £12 12s. a year by resigning my membership of all societies except, of course, the West London Medico-Chirurgical, without whose JOURNAL I could not possibly get on. All the papers and cases we should formerly have read in Hanover Square, Chandos Street and elsewhere, we shall now more profitably read to Dr. Hugh Woods and his Committee, and hope for their approval. Personally, I have now ready a large number of practical contributions on profitable subjects, *e.g.*, appendicitis, typhoid, post-nasal growths, uterine catarrh, hip-disease, gastro-enterostomy, spinal curvature, influenza, rheumatoid arthritis, syphilis, cancer, bronchitis, diarrhœa and other complaints of so varied a character that I cannot think there is a person living and possessed of 10s. 6d. who does not suffer from one or other of them. I am sorry to say

it will occupy Dr. Woods and his Committee every Monday, Tuesday, and Friday evening for several winters in listening to my own papers only, but I do not ask for their UNDIVIDED attention, and I have much pleasure in submitting a plan which will economise Dr. Woods' time in an extraordinary degree. By the use of this plan of mine, his Committee will be able to hear *and distinguish* a hundred or more consultants and specialists reading their papers simultaneously. All the papers must be given in musical recitative and correctly harmonised. The ears of the musical ladies and clergymen of the Committee will then detect the slightest error. Of course Dr. Woods will conduct, I hope from the Presidential chair of the Royal Medical and Chirurgical Society, for which there can henceforward be no other use. The specialists should be arranged in groups according to their lines of practice, and assisted by appropriate instruments. For example, authorities on children's diseases would be placed among the flutes and fifes, whose tootlings and squeakings would suggest a children's ward after visiting hours. Frequent fiery blasts on the trumpets might remind one of the epidemics of scarlet fever, &c., by means of which these favourite institutions contribute so much to prevent the overpopulation of London. Castanets among the orthopædists would suggest osteoclasis, and the tinkle of the triangle at regular intervals would call to mind the clink of guineas dropping once a fortnight into the pockets of gentlemen who screw up steel corsets and leg-straighteners every fourteen days. With a slight alteration in the instrument, the natural aptitude of the performer would enable many a possessor of a stethoscope to blow his own trumpet. The gynæcologists would stand among the brass instruments, each gentleman emphasising the items of his statistics by twanging with his right forefinger on the single-stringed guitar. The staff of St. Peter's should be accompanied by an instrument not perhaps usual in orchestras, but highly favourable to micturition, viz., the whistle. Most of the combined effects of the fife and drum could be produced by this and bladders of either peas or calculi. The demonstrations of the staff of St. Mark's would derive great local colour from continually repeated blasts of the trombones in the manner in which those imposing instruments are used in the overture to 'Tannhäuser.' And alike in the case of the gentlemen from the Samaritan and other women's hospitals, from St. Peter's and from St. Mark's Hospitals, the kettle-drums should always be on the watch to 'veil' any phrase or word unsuited to the ears of the Committee. The big drum should thunder its loudest every time anyone from the Lock Hospital looks like opening his mouth. And there are many other

specialists, particularly those working at the same subjects as myself, whose papers would lose nothing if the drummers were enjoined to treat them in the same way. This plan, which I have respectfully unfolded, seems to me to be so beautiful, so complete, so practical, easy and unobjectionable, that modesty compels me to withhold my real name, and to sign myself Yours obediently—A HOPEFUL ONE."

QUITE possibly some use might be found for the Scotch bag-pipes in this connection. We know that they can make men fight, as was recently proved at Dargai. But they might also be employed for checking hospital abuse—which is the second of the objects aimed at by the "Expert Medical Aid Committee." Whenever a person, who seemed to be able to pay for medical advice, presented himself at the casualty department, two hospital porters might be told off to entertain him for a quarter of an hour with the Scotch bag-pipes, and if at the end of that time he was still sane and had not said that he had an appointment to keep, the presumption would be that a mistake had been made in the diagnosis of his means.

P. D.

Notice.—All communications relating to the literary part of the Journal, books for review and exchanges, should be addressed to the Editor, 54, Wimpole Street, Cavendish Square, W. Applications for copies of the JOURNAL, *communications respecting advertisements, instruments, pharmaceutical preparations, &c., intended for notice, should be forwarded to the Editorial Secretary, 124, Harley Street, Cavendish Square, W.*

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THE

West London Medical Journal.

Published Quarterly under the auspices of the West London Medico-Chirurgical Society.

Original Communications.

SOME OBSERVATIONS ON OLD AGE.[1]

By H. Percy Potter, M.D., F.R.C.S.

"*Nihil habeo, inquit, quod incusum Senectutem.*"—Cicero.

I have been reminded by our energetic Secretary, that it is usual at the close of the Session for the President to deliver a short address on some topic of interest, and I now venture to refer to a subject which has some bearing upon our work in connection with the Advanced Years of Life.

There are so many interesting features connected with Old Age that their study from physiological and pathological points of view have deservedly engaged the attention of all departments of medical practice. Whether we review the habits, dietary or diseases of the senile, we are gratified to find that in the latter days of life, pleasures are not lost to them and disease is often mitigated by the very fact of the extended period of age.

It has in the past, perhaps, been too seldom expressed that the reparative process in old persons is efficiently adapted to the design of healing and resolution, that the tissues, are competent to withstand much destruction—mechanical and inflammatory—and that the constitutional sequels of any but

[1] The Retiring Presidential Address delivered at the Annual Meeting, July, 15, 1898.

the more severe injuries are often kept in abeyance by the peculiar physiological attributes of senility.

And not only is the connection between old age and disease interesting and worthy of study, but the fact of long-continued health without interruption of the bodily and mental functions is one of the marvels, yet by no means a rarity, among old persons.

After the three-score years and ten the advantages of being old are not annulled by the disadvantageous condition of this period of life, for the greater number seem to appreciate their state of peace and serenity and are but little concerned in the strife of life and turmoil of their surroundings.

It would appear that the previous mode of life has not much influence in determining longevity, as this condition is probably born in us, and the fact that old persons have had a salutary existence of temperance, regular occupation, and have lived much in the open suggests that these circumstances are more the *result* of health than the cause of it; for it is apparent that the already robust have eminently greater chances for the maintenance of health than the weakly.

When one speaks of "old age" it must be manifest that this is a relative term, for the physiological changes as age advances vary most markedly in different persons. And this variableness depends not so much upon habit as upon innate structure and conditions. If the old had *not* a cherished legacy from birth of great resistance against the invasion of disease, they would probably have succumbed in their earlier years. "Age" being comparative it is not surprising to find that about 600 deaths of persons from 45 to 55 years, due to "senile decay," are annually registered in England.

There are certain characters of old age which we all recognise as appertaining to it. The atrophic process causes marked emaciation and general wasting of the individual. The equilibrium of metabolism has disappeared. It is in the muscular system that one finds a progressive diminution in size, and although many old persons suffer from degenerations due to modifications in the chemistry of the tissues, a larger proportion are free from evidences of these pathological characters. As the lightness of the bones is caused by absorption of the compact and cancellous structures, we not infrequently meet with fractures, which, however, unite readily and as

firmly as in the adult. This degeneration of organs must be chiefly due to attenuation of the small blood-vessels of the textures, hence the occurrence of fatty degenerations, which are common and dependent upon lack of tissue nutrition. And when the digestive powers lose their vigour we may infer that fatty changes or simple atrophy have appeared in the glands of the intestinal tract. But in respect of physiological efficiency it seems as if a normal old age depends in great part upon a lessened activity of function proceeding hand in hand with atrophy of structure. Waste, although not so rapid as in the adult, nevertheless is evident in old age; and repair adjusts itself to nature's requirements. So much depends upon assimilation, that where this is wanting repair can in no true sense be effected. It is in the muscular tissue that combustion and waste are going on, and as in old individuals these are at their minimum, small amounts of food suffice to maintain the equilibrium between ingesta and excreta.

It is probable that an adult requires an import of nitrogen and carbon twice as great as that wanted by an old person. Digestion and old age are correlated. The absence of teeth seems to have no effect upon the digestive process. It is astonishing how easily these individuals will masticate their food with their alveolar ridges. These upon section are dense ivory-like structures, and the salivary secretion is copious. The stomach, too, must in these old persons maintain its vigour, for liberal libations of boiled tea and the hardest of cheeses seem often to have no prejudicial effect. On the other hand where lack of absorption and assimilation are the results of chronic dyspepsia decay exceeds repair, and fatty degeneration follows in the wake. Since it is evident that the habits of elderly persons are sedentary, and that there must be a very small demand upon the muscular, respiratory and cardiac systems, flesh foods are but seldom needed; for we have to fear putting too great a strain upon the nitrogen excretory organs.

In calculating the dietary for a large number of old people in a public institution, we naturally choose one which gives enough carbon and nitrogen and yet does not overtax the absorbent and excretory organs, the ingesta must just suffice for the tissue-building and animal heat. An equipoise between restitution and tissue waste must be maintained.

No. 3.—Dietary for all Inmates over 70 Years of Age, and such others as may be specially placed thereon by direction of the Medical Officer on account of infirmity or special circumstances.

		Breakfast.			Dinner.									Supper.		
		Bread	Cocoa or Tea	Butter or Margarine	Bread	Cooked Meat	Rice Milk	Mutton	Meat and Potato Pie	Potatoes and other Vegetables	Butter or Margarine	Cheese	Irish Stew	Tea with Milk	Tea with Milk	Butter or Margarine	Bread
		oz.	pint	oz.	oz.	oz.	pint	oz.	oz.	oz.	oz.	oz.	oz.	pint	pint	oz.	oz.
Sunday	Men	5	½	½	3	5	..	..	..	8	..	..	..	½	½	½	5
	Women	4	½	½	3	4	..	..	..	8	..	..	..	½	½	½	4
Monday	Men	5	½	½	6	..	1½	..	..	..	..	..	..	½	½	½	5
	Women	4	½	½	6	..	1½	..	..	..	..	..	..	½	½	½	4
Tuesday	Men	5	½	½	3	..	..	5	..	8	..	..	..	½	½	½	5
	Women	4	½	½	3	..	..	4	..	8	..	..	..	½	½	½	4
Wednesday	Men	5	½	½	3	..	..	..	..	..	..	..	20	½	½	½	5
	Women	4	½	½	3	..	..	..	..	..	..	..	16	½	½	½	4
Thursday	Men	5	½	½	..	..	..	..	16	..	..	..	..	½	½	½	5
	Women	4	½	½	..	..	..	..	16	..	..	..	..	½	½	½	4
Friday	Men	5	½	½	3	5	..	..	..	8	..	..	..	½	½	½	5
	Women	4	½	½	3	4	..	..	..	8	..	..	..	½	½	½	4
Saturday	Men	5	½	½	6	..	..	..	..	..	½	2	..	½	½	½	5
	Women	4	½	½	6	..	..	..	..	..	½	2	..	½	½	½	4

A diet which allows for the incessant systemic waste, and which many years of practical experience has proved most suitable to the age and habits of the old, is as follows:—(*See* Table, p. 278) which gives upwards of 2,700 grains of carbon and 200 grains of nitrogen *per diem*. The precarious living, irregularity of meals, unwholesome and often adulterated food which these old persons have had to submit to in their own homes are not conducive to a healthy existence.

The diet as above tabulated, although meagre and apparently monotonous, is sufficient for the requirements of a sedentary existence, and I cannot be blamed for indulging the aged under my care with heavy meals. Thus my old friends are free from dyspepsia, too often the outcome of an overloaded stomach. And one of the chief safeguards against dyspepsia is a rigid regularity of meals. As a result of going into the previous history of this class of individuals, in exceptional cases very large quantities of alcohol have been imbibed, and it a matter of surprise how long some great topers live.

The absence of disease which might be anticipated in those addicted to excess may either be ascribed to the speedy elimination of alcohol by the excretory organs or to the old having passed that period when indulgencies of this kind would have had a prejudicial effect. But it might with reason be suggested that without these gratifications life would have been even more prolonged. The recuperative forces are so marked in individuals of advanced age, that good results may be looked for in disease and injury, followed by speedy convalescence, comparable to that which obtains in the adult. From an experience in 1,830 cases of disease and injury of old age, I think that one need not despair, even in aggravated types of disease, nor deplore the possible result of a major operation; for prognosis is dependent more upon the general state of the organs than upon the physiological or the actual age. I would emphasise the need, and plead for a more optimistic view of the vitality and reparative possibilities in the old. Let us buoy them up with hope, aye, a feeling of confidence and not regard as hopeless any bodily ailment. Remedial measures, which we commend in the young, must not be neglected in those of advanced years. That nutrition in these individuals is often feeble is a common-

place, but this fact seems to have no influence upon resolution in disease and repair after loss of continuity of tissue. Conversely, in certain adults in whom the nutrition might reasonably be expected to be good, consequent upon social position and favourable surroundings, how often do we find that they lack reparative force and vitality after an accident or surgical operation? No one will oppose the view that in those cases in which we desire a normal and equable repair that a *minimum* of nutritive aliment is preferable to a larger amount, which often interferes with assimilation, absorption and nutrition. Injuries and operations in the senile have their attractive features, for it is often in those instances in which least hope can be held out that we witness good results.

It is often a source of congratulation to surgeons that in the aged wounds heal in a marvellously quick manner without complication of inflammation and other forms of active hyperæmia, and we are saved from the despair which the pathology of old age is apt to suggest. In the *passive* repair after injury which is so characteristic of this period of life, we have a condition too seldom met with in the young, in whom we frequently find unwelcome evidence of inflammatory action. And in this freedom from inflammation lies one of the advantages of operative measures in the aged.

I will now briefly refer to the influence of sex in respect of longevity, and endeavour to show that the term of life, despite the advantages under which we live nowadays, is slowly but surely becoming shorter.

The wide difference between the numbers of males and females living to an extreme age is not easily accounted for. In the last return of the Registrar-General (and the same average applies to a long series of years), there were in England deaths of, roughly, 5,000 males to 8,000 females of 85 years and upwards; in London 450 deaths of males, and upwards of 1,000 females at the above-mentioned age-period; showing specially in the London district a large preponderance of female deaths. Thus, more women live to a greater age than men. We find the same applies to deaths certified under "old age." This is an elastic term, as persons of 45 years are occasionally certified as dying of "senile decay." The number of deaths from old age of males and females in England are 13,000 and 17,000 respectively. The influence

of living in London appears very prejudicial to longevity, more especially in men, for it is shown above that more than twice as many women as compared with men live to an age of 85 years and upwards. But the percentage of those dying of old age compared with deaths from all causes, is, alas! a gradually decreasing quantity. People do not live so long as formerly. We give this in a tabular form.

PERCENTAGE OF DEATHS FROM OLD AGE COMPARED WITH DEATHS FROM ALL CAUSES.

Years.	Persons.	Males.	Females.
61—65	6·0	2·58	3·42
66—70	5·69	2·45	3·24
71—75	5·50	2·37	3·13
76—80	5·16	2·25	2·91
81—85	5·24	2·27	2·97
86—90	5·16	2·21	2·95
91—95	4·19	2·11	2·85

Expectation of Life.—In contrasting the tables 1838-54 and 1871-80, we find by a simple process of calculation, that whereas in the former period there were living at 85 years and upwards 135 females to 100 males, and in the later period there were 155 females to 100 males, therefore females have a relatively and an increasingly better expectation of life. At the same advanced age this "expectation" has gone down in the males 4·5 per cent., and in the females only 2·5 per cent.

The increasing anxieties of life, competition, and high pressure of our civilisation may possibly be factors which induce a shorter period of life in the aggregate; and we cannot fail to recognise that some diseases, occurring in earlier years than those to which we refer, notably cancer, are more prevalent than formerly, the incidence of which is scarcely outbalanced by the decrease in the zymotic death-rate.

Perhaps on this occasion it is most fitting to express my feelings of regret that this is the last time I have the honour of occupying this Chair.

My tenure of office has, indeed, been a happy one, and this pleasure has been enhanced by the aid I have received at all times by the officers of our Society.

Although I could hope that my efforts had been more fruit-

ful of good, I have done my utmost to make the session successful and the Society vigorous, and feel sure that under the guidance of the future President that nothing will be wanting to ensure continued prosperity at our meetings.

ECTOPIC GESTATION AT TERM.

By J. A. Mansell Moullin, M.B.Ox., M.R.C.P.
Physician for Diseases of Women, West London Hospital.

At the end of April I was called in consultation to the case of a woman, M. W., aged 36, who was expecting her confinement in a few days, and whose condition was the cause of some anxiety. She had had one child eight or nine years previously.

Since she had become pregnant she had never been well, and had suffered much pain in the lower part of the body, but with an occasional day in bed had continued to attend to her household duties. She was extremely thin, but gave me to understand it was her natural condition.

The abdomen was tense and hard, the lower part occupied by a tumour, which however did not rise above the level of the umbilicus. The upper border was uneven and rose highest on the left side. In front of the tumour, above the pubes and in the middle line, was a small rounded prominence about the size of an egg. This was found to vary in consistency, being at one time quite soft, and then becoming distinctly harder. This I took to be the uterus, only slightly enlarged and lying in front of the tumour. *Per vaginam* the cervix was found high up behind the pubes, and pressed forwards by a hard rounded mass behind it. No fœtal heart sounds or placental bruit could be detected, but the patient assured me she had all along felt movements and still continued to do so. I had no great difficulty in deciding that the fœtus was outside the uterus and probably alive.

The somewhat feeble condition of the patient, and the consideration that her life was of far greater importance than that of the fœtus, led me to advise the course which is certainly the safest for the mother, that is, to defer operation until the

death of the fœtus. I am aware other operators hold a different opinion. A fortnight later I saw her again; she was much the same as on the first visit; no movements had been felt since. On May 14 I opened the abdomen. A large quantity of flocculent lymph at once escaped from the peritoneal cavity. On opening the sac which then came into view, the breech presented, and a full time fœtus, weighing about 3lbs., was extracted without difficulty. The head was lying behind the uterus.

The placenta occupied the upper portion of the sac and was partially cut through on opening it. The removal of the placenta was attended with some hæmorrhage, which however soon ceased. I flushed the peritoneal cavity and the sac with hot water and secured the edges of the latter to the abdominal wound. A strip of iodoform gauze was placed in the opening. The operation occupied about fifteen minutes.

There is no occasion whatever, in cases of this kind, to interfere with the relations of the sac or to attempt to separate the intestines which are sometimes intimately adherent. Such an attempt only leads to bruising or tearing of the bowel and seriously complicates the operation.

If, as sometimes happens, the sac is free from adhesions and can be removed entire with the enclosed fœtus, it should of course be removed, but otherwise the simple plan is to secure its edges to the abdominal parietes.

The sac contracts very rapidly. At the end of twenty-four hours it will only contain an ounce or two of fluid, and the sinus closes completely by the end of a month.

The placenta should always be removed when possible, otherwise it comes away in fragments and *débris* and necessarily prolongs the convalescence of the patient.

The above case made an uninterrupted recovery.

Now to decide the question whether, when the child is viable in an extra-uterine pregnancy, it is better to operate while the child is yet alive in the hope of saving both it and the mother, or to wait for its death, and the subsidence of the placental circulation, is not an easy matter. Cases of the kind are not frequently met with, and no single operator has met with a sufficient number to entitle his opinion to finality. Of course the ideal operation is that which saves both mother and child.

A. Orillard (*Gaz. d. Hop.*, No. 41, 1894) collected 60 cases of the primary operation, *i.e.*, operation during the life of the child. Of the mothers, 8 were *in extremis*, most of them with peritonitis, at the time of operation; but of the remaining 52, 28 recovered and 24 (46 per cent.) died; but of the 30 cases during the past ten years only 10 (33 per cent.) died. Statistics of this kind are not of much value, but still they afford the only information available. They show that the operation in various hands has been a very fatal one, and that with the improvements in modern surgery the mortality is becoming less, although still very high, *i.e.*, one in three. Many of these cases are probably too old to be relied on, and quite likely were imperfectly reported. I strongly suspect the eight cases excluded from the list as *in extremis* from peritonitis died as a result of the operation. It certainly was most unfortunate that after they had succeeded in getting to full term with the child alive peritonitis should have developed at the last moment. Two children in the eight cases above mentioned were saved. Of the 61 children, 27 were saved, 26 died soon—22 within twenty-four hours, 4 within forty-eight hours; 8 died later from various causes. In all, 6 children were malformed.

These statistics, as far as the children are concerned, may be taken as correct, and show that it is possible to save considerably less than half of them. The cost of doing so, even during the best period under review, has been a maternal mortality of one in three. In other words, to save 44 per cent. of the children 33 per cent. of the mothers, taking the best figures, are sacrificed.

Now to determine a question of surgical procedure one must be guided by results, and unless better than those above can be obtained in the future, there is little to be said in favour of the primary operation.

The mother undoubtedly has the first claim to consideration. By waiting, some of the children are necessarily sacrificed, but the gain to the mothers is very great—indeed the danger almost passes away, and the mortality can be reduced to a very small amount.

When the gestation has gone to full term the period of danger has long since passed. There are no complications to be apprehended. Labour fails to be accomplished, and

as a consequence the child perishes. The placental circulation ceases, and an opportunity is afforded for removing the gestation with a minimum of risk to the mother. All the cases, eight in number, of which I have notes, have made a perfectly uneventful recovery.

Two or three weeks after the death of the child I consider a sufficient length of time to wait before performing the secondary operation; Pinard advises two months, Litzman five. The separation of the placenta is the one difficulty which may present itself at the operation. Cases have been reported in which profuse hæmorrhage occurred two and three months after the death of the child.

It is obvious no rule can be laid down. I experienced no difficulty in the above case, and I find another published by Dr. Cullingworth, in which he had no trouble in separating the placenta four weeks after the cessation of fœtal movements. Evidently each case must be treated according to circumstances.

A careful attempt should always be made to remove the placenta if possible; the danger of hæmorrhage depends largely on the situation it occupies and its connection with vascular organs.

There is no occasion to wait until the fœtus putrefies and septicæmia and peritonitis complicate the case. If it is clear the patient is suffering from septic absorption, it is evident the operation has already been delayed too long.

MASSAGE IN CHOREA.—Fedorov (*La Semaine Méd.*, September 8, 1897) is well pleased with the results obtained in ten cases of chorea by the use of massage. The patients were children from seven to fourteen years of age. The movements were at first light, then gradually increased in force until the whole body was thoroughly handled. Passive motions followed as soon as the patients were sufficiently calm to permit them. The beneficial effects of this treatment were evident on the third or fourth day, and at the end of a week an improvement in the general condition was manifest. Fedorov believes that the massage exerts a sedative action on the central nervous system, stimulates the circulation, and so facilitates nutritive exchange and the elimination of toxins which have accumulated in the organisms.

Report of Proceedings.

CLINICAL EVENING.

Friday, June 3, 1898.

Dr. H. PERCY POTTER, President, in the Chair.

A Case of Double Arthrectomy.

The PRESIDENT: I show this case as one of a series of arthrectomy performed on the knee-joint of an adult. When pain, swelling and incapability of work are pronounced symptoms and the usual measures are of no avail in curing the disease in chronic cases, in my opinion one is justified in having recourse to more energetic procedures.

The young woman who comes before you has had disease of the right knee for five years; having experienced many forms of treatment without any permanent effect, she decided to undergo an operation, so was sent to the Infirmary with that view. On June 2, 1897, I made a semilunar incision, severing the ligamentum patellæ and reflecting the bone; the synovial membrane was found extensively involved in tuberculous disease, which caused the cartilage to be invaded. The whole of the membrane was carefully removed with curved scissors and the sharp spoon. The ligament was re-united with catgut, the skin-wound brought together, dressed, and the limb placed in plaster of Paris. There was primary union without any rise of temperature. The patient was up and about three weeks after the operation, and it will be seen that there is complete movement of the joint. She returned for treatment of the left knee in February last. This joint had been diseased for four years, the swelling and pain prevented the patient doing housework for more than ten days at a time. On February 18, I did an arthrectomy on the left, similar to that on the right knee. The operation was protracted, for it necessitated the removal of all the diseased tissue. Despite the short lapse of time since the operation there is very free movement, but the power of flexion is not quite complete. The patient is able to walk about without inconvenience, and is busily employed in her household duties.

Mr. MCADAM ECCLES: I think this case is an extremely good result of arthrectomy, the movement is so perfect that one can hardly believe that so extensive an interference of the joints has been carried out. Often where one desires to

get a movable joint, a stiff one results, and when one performs arthrodesis the difficulty often is to get complete stiffness.

Dr. T. R. ATKINSON: This seems to me to be a very successful case. The operation must have been carefully planned and skilfully executed, and the result is all that could be wished. In fact, the movement in the joint first operated upon is unusually good. It is worth while remembering that twenty years ago the word "arthrectomy" was hardly known, and in Dunglison's "Medical Lexicon for 1876," it is not found. Such has been the rapid growth and development of this kind of surgery. Perhaps it is too soon yet to speak of radical cure. It would be interesting to have this case examined in five years' time.

Mr. KEETLEY: Although it is very desirable, it is not absolutely necessary, that operations for tuberculous diseases should be as thorough as those for cancer. I prefer to cut across the patella itself, close to its lower end. The bone is soft, easily cut and easily perforated in tuberculous cases, and it holds a suture well, which the ligamentum patellæ does not, if exposed to any accidental strain. It is remarkable what good movement often follows even extensive interference with joint surfaces.

The PRESIDENT: I appreciate the kind remarks which have been made as to the success of this case. In my opinion there will be no recurrence, since it would have appeared in the right knee before now, and at the operation there was complete removal of the tuberculous deposit. The extensive incision made and complete retraction of the patella, afforded me the advantage of exploring the whole of the joint. I regard the transverse division of the patella, which is sometimes done in this operation, as an unnecessary procedure. There is practically no difficulty in suturing the ligamentum patellæ.

Plastic Operation for Loss of Skin over the Right Knee.

Mr. KEETLEY: This patient, a woman, suffered from destruction of the skin in front of the right knee, and from caries of the patella. As soon as the parts were got into a healthy state, two long incisions of relaxation were made, one on each side of the knee, and the skin anterior to them freed from the parts beneath. The two bridges of skin could then be shifted till they met and were sutured together over the patella and front of the knee. The resulting denuded surfaces at the sides of the knee were covered with Thiersch's grafts, all of which lived. The operation was done seventeen days ago. In cases too extensive for this operation I have found that the best plan is the transplantation of a flap from the

popliteal space of the other limb. The raw surface resulting should be covered with Thiersch's grafts, which suffice for the popliteal space, but do not furnish a covering strong enough for the front of the knee. The pedicle of the flap transplanted should not be divided for several days, and it should be wide.

A Case of Dermatitis caused by Red Oxide of Mercury.

Dr. P. S. ABRAHAM: The case I now show is one of dermatitis produced by red oxide of mercury ointment, which I was asked by Mr. Paget to see to-day. The patient, a man, was treated in this hospital by Mr. Paget last January for a Pott's fracture. He was sent out with a plaster splint, and when this was removed some weeks afterwards, two ulcers were found on the ankle and heel. These were subsequently treated with the ointment for about a fortnight, and then the leg became inflamed, a bullous eruption appeared, and now there is much "worm-eaten," punched out, superficial ulceration, simulating a syphilide. There has been much itching, burning and pricking. The patient has had gonorrhœa, but not syphilis.

Calcareous Deposit in the Scrotum.

Mr. MCADAM ECCLES: I bring before you an interesting case of calcareous deposit in the scrotum. The patient is a man of 58, who, at the age of 13, was struck on the right side of the scrotum by a cricket ball. Very soon after the accident he had great pain in the right testis, accompanied by much swelling. After a while the pain to a very great extent disappeared, but the enlargement has persisted ever since. You will find that the right half of the scrotum is occupied by a swelling which is densely hard, and that almost uniformly so, except for a small area posteriorly, and at the lowest part. At the latter spot there is a rounded mass not unlike the size of the body of a normal testis, but more fluid-like in its feel, and without any distinct testicular sensation. However, I take this to be in reality the testis. The mass above I am inclined to think is calcareous deposit in the walls of an old hæmatocele. The skin is quite freely movable over the enlargement, and there is no lesion of the vas. The patient is also the subject of a left femoral hernia, which he has had for two years.

A Case of Tuberculous Deposit in the Epididymis.

Mr. MCADAM ECCLES: I also bring to your notice a case of tuberculous deposit in the epididymis. The patient is a young man of 29, who has always enjoyed good health except

for an attack of small-pox seven years ago—he had been vaccinated when an infant. There is the history, moreover, of an urethritis twelve months ago, but he is very positive, and I see no reason to doubt his statements, that he did not have any swelling or pain in the testis at this time. There is no family history of tubercle. For about one year he has had a cough, but never any hæmoptysis, nor has he lost flesh. There is no evidence of any deposit of tubercle in his lungs. He first noticed enlargement of the lower end of the left testis a few weeks ago. Then slight pain followed, and the swelling increased in size. He has had no abnormal frequency of micturition, nor pain on defæcation. If you will examine him, you will find that there is a very marked enlargement of the globus minor of the left epididymis, which is somewhat hard, and slightly tender. This swelling is remarkably free from the body of the testis, which itself, I think, is but little if any enlarged, though it may have some fluid around it. The globus major is wholly unaffected. The left vas is very much thickened, and that as high as it can be felt. *Per rectum* there is no obvious increase in the size of the left vesicle, or prostate, or any tenderness in this region. My opinion is, that this is a case of tuberculous disease of the left epididymis, and that it has advanced so far that it is not advisable to perform castration on that side, since the vas is affected so high.

Mr. C. B. KEETLEY: With regard to the first case, the hard nodular feeling and weight of the swelling reminds us of enchondroma of the testis, which is, however, an extremely rare disease. The soft part may not be the body of the testis at all. The patient does not own to the testicular feeling in it. It would be as well to try if this soft part is transparent. The patient says the tumour came to its present size gradually, which history, if trustworthy, is against the diagnosis of hæmatocele. The case is very interesting and its diagnosis difficult. Then, concerning the second case, the young man had gonorrhœa with scalding twelve months ago, and has, he tells me, still a slight discharge. The epididymis is uniformly hard and has exactly the feeling of one affected with chronic gonorrhœal inflammation, although unusually large. It presents no sign of adhesions or softening anywhere. It is possible that it may have become tuberculous, but I think it is a case of chronic gonorrhœal epididymitis.

Mr. SWINFORD EDWARDS: After examining the first case, the idea that it might be an enchondroma, from its intense hardness, occurred to me, but as it appeared limited to the epididymis, contrary to what usually occurs in cartilaginous tumours, I concluded that it was a case of chronic epi-

didymitis with calcareous degeneration. I strongly advise removal. The second case seems to me to come under one of two headings, viz., either tuberculous epididymitis or chronic inflammation of the epididymis due to gonorrhœa. Of these two I incline to the former, as the patient assures me all discharge stopped six months before he noticed any testicular swelling.

Mr. PARDOE: With regard to Mr. Eccles' first case, I should like to ask whether there is any difference in the two lobes of the prostate. Since White, of Philadelphia, advocated castration for enlarged prostate, a great deal of attention has been directed to the subject. This patient has apparently on the right side an atrophied testis, which has, according to his own account, been in that condition for a number of years. He has now reached an age when there is normally an increase in the size of the prostate, and in many cases a great abnormal increase. It would be of interest to learn, I think, if there had been an arrest of development in the prostatic lobe corresponding to the atrophied and functionless testicle. With regard to Mr. Eccles' second case I did not quite understand whether there was any deposit felt in the vesiculæ seminales or prostate. I think a point of interest and importance is the possibility of infection both in a downward and upward direction by way of the vas deferens. The first is well exemplified in the case of men who have entered upon catheter life, and who suffer off and on from most unpleasant attacks of orchitis and epididymitis. Mr. Reginald Harrison has drawn attention to the fact that after vasectomy has been performed on these cases, they are troubled no more by the testicles. I have myself seen several instances of this. The catheter no doubt ceases to infect this tract beyond the ligatures. The operation, easily performed under cocaine, might be extended to upward infections, such as might be feared in the case of this patient. Permission might not be obtained for removal of an early tuberculous testis, but a simple operation like vasectomy would probably rouse less opposition. At all events it might be worth trying after administration of iodides if the latter failed.

Dr. T. R. ATKINSON: The second case seems to me to be a puzzling one. I believe, however, I have seen one or two cases like it where the patients had had gonorrhœa and subsequently curious swelling of the epididymis and cord. Looking at the man I should say that he has not naturally a good constitution, probably his share in heredity was not all that could be wished. It is admitted that he has suffered with gonorrhœa; I therefore am inclined to think that in this

peculiar condition of the testicle there is a little of both conditions, gonorrhœal and tubercular. When a man inherits a tuberculous taint which becomes seated in one of the organs of generation, the gonorrhœal inflammation seems to me to act as an irritant which gives rise to tuberculous development. I have no doubt if the man could have rest and proper tonic treatment, with strict temperance, the swelling would subside.

Mr. McAdam Eccles: I have to thank the members for the interest they have shown in the two cases that I have had the honour to bring forward to-night. In reply to Mr. Keetley, I would wish to say that I think that the remark which fell from Mr. Edwards, to my mind sufficiently disposes of the idea that the hard mass in the first case is of the nature of an enchondroma, namely, that in such growths the whole of the testis as well as the epididymis is completely involved. Mr. Keetley's observation with regard to the early adherence of the skin in cases of tuberculous affection of the epididymis is quite true in the majority of instances, but there are exceptions to every rule. Mr. Pardoe's remarks concerning the condition of the prostate are of the greatest importance, and I hope to be able to pursue this investigation further. I think undoubtedly Dr. Atkinson's view that the previous possible gonorrhœal attack may have paved the way for the deposit of the tubercle bacillus is one that should be borne in mind.

Carcinoma Recti.

Mr. Swinford Edwards: This patient, a male, aged 68, has only had trouble with his rectum for six months, but in spite of this short history I found a malignant growth extending entirely round the bowel. Its lower border was about 3 inches above the anus, and it extended upwards for 2 inches. As the growth did not appear to have contracted adhesions outside the rectum and I could detect no glands, I removed or rather resected the rectum by Bardenheuer's modification of Kraske's operation, on March 28 of this year, and at the same time I attempted a rectorrhaphy, but owing to a sudden and violent action of the bowels on the second day, union of the gut was only obtained in its anterior wall. The patient has now a small papillomatous growth with indurated base on the anterior rectal wall which is doubtless an early recurrence. This I intend to excise freely in a day or two, opening again if necessary the peritoneal cavity. This is now the seventeenth case in which I have removed high-lying cancer of the rectum by this method. Out of this number I have been fortunate enough to have had only two deaths. I would refer you to a paper of mine "On the

Removal of High-Lying Cancer of the Rectum by Kraske's Method" (*British Medical Journal*, May 15, 1897). I might mention that this patient gets about in comparative comfort, wearing one of Maw's improved rectal supports.

A Case of Renal Calculus.

Mr. SWINFORD EDWARDS: I bring this case forward rather as an example of successful radiography than as an instance of surgical skill. The patient, a lad of 20, was sent to me by Dr. Charles Andrews, with well marked symptoms of renal calculus on the left side. He had suffered from hæmaturia after exercise or undue exertion for ten years, but only during the last six months had he complained of any pain or tenderness. This pain, severe at times, started in the left renal region and passed downwards to the groin and testis. Palpation revealed nothing. Being thin I thought him a good subject for the employment of the X-rays, and accordingly sent him to my friend Dr. Low, who was successful in obtaining these skiagrams, in all of which a well marked shadow is discernible in the position of the left kidney, which shadow is not present on the opposite side (see fig. 1). On May 26 of this year I performed nephrolithotomy, *i.e.*, just a week ago, by the usual lumbar incision, and removed this large calculus which weighs nearly 2 ozs. (see fig. 2). I was obliged to make an incision 3 inches long, through the kidney substance, to extract the stone, which incision was afterwards closed by three catgut sutures. Although there was considerable hæmorrhage from the kidney at the time of extraction, it soon stopped, and the patient's urine has been quite free from blood since the day after the operation. Now, a week after the operation, the lumbar wound is almost closed, and I hoped to have shown him to you this evening, but he has had a little trouble with his bowels, for the relief of which an enema has just been administered. As Dr. Low is present this evening, I hope he will make a few remarks on the subject of the X-rays as applied to this case.[1]

Dr. Low: Very few cases of successful radiography of renal calculi are recorded, although very many have been tried. This case was fortunate in being a large stone in a thin boy. The exposures were 7 min. and 9 min., and in all three skiagrams the shadow is well marked in the lumbar region, the spinal column, pelvic crests and lower ribs, showing the postition. In stout patients it is exceedingly difficult to get any result. It has been observed that in all

[1] This case was seen on September 1, 1898. The wound was then soundly healed, and the patient had lost all his symptoms.

FIG. 1.

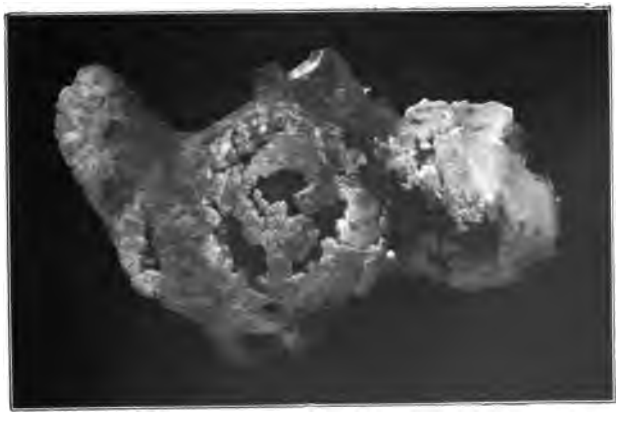

FIG. 2.

the cases of success the kidney substance has been very attenuated.

Mr. PARDOE: I must congratulate Mr. Edwards and Dr. Low on their very successful case. I think I am right in saying that until the paper read at the Clinical Society a few weeks ago by Dr. Taylor and Mr. Fripp, there was no case on record of a renal stone having been detected by the Röntgen rays, and thereafter removed by operation. The general opinion of that meeting appeared to be that though one would be very glad to have the confirmatory evidence of the presence of a stone given by the X-rays, yet a negative result would deter no surgeon from proceeding with a kidney exploration. But if such excellent skiagrams as those shown to-night can be consistently obtained, I think that we shall soon be able to rely much more for diagnosis on the Röntgen photography. I have had the opportunity of seeing a considerable number of cases of renal stone during the last two years, which have been subjected to skiagraphy. The last case was attempted by Messrs. Watson. The patient had suffered from repeated and severe attacks of renal colic, but for about a fortnight had been free. The surgeon who first saw him was of opinion that a stone had passed from the kidney into the ureter. The skiagram gave no definite result. The operation was performed at St. Peter's Hospital and I was fortunate enough to be present. The bladder was examined by electric light but nothing found. The kidney was thoroughly explored, and a bougie about 14 in. long passed down the ureter with negative result. Three days after the operation the patient passed a uric stone the size of a small horse bean. Probably had the bougie been passed a little further the stone would have been reached.

Mr. EDWARDS: In the renal calculus case the kidney substance was thin but healthy.

THE ANNUAL GENERAL MEETING.

Friday, July 15, 1898.

T. GUNTON ALDERTON, Treasurer, in the Chair.

THE Annual Report and the Treasurer's Report were read and approved.

The Office-bearers for the ensuing Session, as nominated by the Council, were unanimously elected (*vide* p. 323).

The Senior Secretary, for Dr. H. P. Potter, who was unavoidably absent, read the President's valedictory address, which is published in full on p. 275.

The following votes of thanks were proposed, seconded and carried:—

To the PRESIDENT, proposed by Dr. J. B. BALL, seconded by Dr. T. R. ATKINSON.

To the TREASURER, proposed by Mr. LAWRANCE, seconded by Dr. LAMB.

To the AUDITORS, proposed by Mr. L. A. BIDWELL, seconded by Dr. BENNETT.

To the SECRETARIES, proposed by Dr. T. R. ATKINSON, seconded by Dr. ALDERSON.

To the EDITOR OF THE JOURNAL, proposed by Mr. MCADAM ECCLES, seconded by Mr. C. ANDREWS.

To the EDITORIAL SECRETARY, proposed by Dr. ALDERSON, seconded by Dr. G. H. D. ROBINSON.

WEST LONDON POST-GRADUATE LECTURES.[1]

II.

INCIPIENT SENILE CATARACT AND ITS TREATMENT.

BY PERCY DUNN, F.R.C.S.

Ophthalmic Surgeon to the West London Hospital.

I HAVE chosen the subject of this lecture mainly for the purpose of bringing under your notice certain practical details in regard to incipient cataract, to which, I think, attention may be usefully directed.

Let me preface the remarks which I am about to make by reminding you that cataract is met with in various forms, and that the commonest of all varieties is that which is known as senile. The term senile, however, is used more in a general than in a particular sense, inasmuch as cataracts thus described may develop in persons otherwise of sound health whose age scarcely exceeds forty, and in whom the evidence of premature senility is entirely absent. Furthermore, persons may live to a great age and exhibit in their appearance generally advanced senile changes, and yet their lenses may remain clear to the end of life. Thus it is impossible to speak of cataract as a physiological attribute of old age. Fortunately, after reaching the meridian of life we do not become the subjects of cataract with the same

[1] Delivered on March 16, 1898.

certainty that we become grey-headed, and the explanation is, that while the latter condition is the normal result of failing nutrition, the processes associated with the development of cataract are assumed to be of a pathological nature.

Senile cataract is regarded as purely the result of local changes, that is to say, the assumption is that it does not depend upon any so-called constitutional cause. Nothing is known, for example, of any special disturbance of the general health which contributes to its occurrence. Nor do we know that any particular mode of living or habits of life predispose to the same end. Indeed, despite the many efforts which have been made to show that senile cataract is due to some general disorder of nutrition, nothing has ever been definitely determined in this regard. Deutchmann at one time sought to establish that the albuminuria commonly met with in old people was associated with lental opacity, and similarly Michel considered that the affection was connected with atheroma of the carotid arteries. But a large number of statistics have altogether failed to lend support to these hypotheses. The facts here mentioned are worthy of remembrance, for they plainly show that in the present state of our knowledge nothing is known of any means by which the development of cataract may be prevented.

Such a statement as this, perhaps, is undeniably disappointing, for unless we can learn something more than we know at present of the cause or causes of cataract, there can be no real progress so far as the treatment is concerned—short, that is, of operative measures. Possibly, however, the changes associated with the development of senile cataract may be of a chemical nature. We know that the integrity of the lens capsule is essential to the maintenance of the transparency of the lens. For example, if the capsule be punctured and the aqueous be allowed access to the lental substance, the latter swells from the imbibition of the fluid and becomes opaque. Researches into the pathology of cataract have seemed to show that with the sudden and rapid shrinking of the nucleus of a senile lens there occurs a separation of the fibrillæ of the cortical lental layers, and that, in the interspaces so caused, fluid collects. This fluid has precisely the same effect upon the lens substance as the aqueous has when the capsule is punctured.

Perhaps, then, in senile cataract it may be by the method known as osmosis that an excess of fluid gains access to the lental substance through the lens capsule, the process depending upon an altered chemical composition of the aqueous brought about by some change in the blood. This hypothesis gains support from the fact of the frequent

occurrence of cataract in diabetic persons. But if the problem of the etiology of cataract should ever prove to be a chemical one, dependent upon some alteration in the blood, possibilities would arise for the prevention and treatment of the disease, which might prove to be a distinct advance upon present methods. Just in the same way as alkalies are found to be of service in the treatment of rheumatism, so it might be possible to treat cataract by the administration of some drug with a view to altering the chemical composition of the blood, and thus, in accordance with the theory above advanced, prevent an excess of fluid from gaining access to the lens substance.

Incipient cataract may declare itself in various ways. Most commonly the opacities take the form of striæ appearing in the cortical layers, or around the nucleus, or instead of the striæ there may be dotted opacities, or again there may be a diffused haze of the layers around the nucleus. The nucleus itself in old persons ordinarily remains exempt from opacity; it is in a condition of sclerosis which is believed by some to be a purely physiological change. This point is not without importance, for sometimes the nucleus in an old person may so impart an opaque appearance to the lens as to give rise to the mistaken belief that cataractous changes are in progress.

Ordinarily in incipient senile cataract both eyes are affected. Generally, however, one eye fails before the other, and a variable interval occurs between the onset of the changes in each. But when the patient first comes under notice it generally happens that the ophthalmic surgeon finds cataractous changes in each lens, the patient having probably delayed seeking advice as long as the vision in one eye remained unaffected. The symptoms complained of in these cases is first of all a gradual failure of vision, and an increasing inability to see objects clearly at a distance. The defect is often described as a "mist before the eyes," or the patient is troubled with always seeing "black dots"—*muscæ volitantes*—especially when looking at anything white. Medium sized print can be read and near work can be done, although there is wanting the clearness of definition which used to be present. Variations of course will be met with among different patients, as to the effect upon their vision by the presence of the cataractous changes; if the opacities be mainly around the nucleus the failure of vision will be greater than if they are mostly confined to the cortical layers. Besides the persistent *muscæ volitantes* or black dots in the field of vision, patients may be considerably tormented by polyopia, that is, multiple vision, or seeing objects double or

multiple. This is due to the irregular lental astigmatism caused by the opacities, by which the lens multiplies the images of the same object which it throws upon the retina. In some cases this polyopia is a considerable source of annoyance, especially if the advancement of the cataractous changes takes place at a very slow rate, for both the *muscæ volitantes* and the polyopia may persist until the vision is further reduced with the increasing opacity of the lens.

In the examination of a patient suffering from incipient cataract two methods should be resorted to, first, that by oblique illumination, and secondly, that by means of the ophthalmoscope. The oblique illumination enables us readily to determine the presence of gross central opacities, but with an undilated pupil it cannot help much when the opacities are under cover of the iris in the cortical layers of the lens. Nor can it reveal fine lental opacities when these are present. But with the ophthalmoscope early cataractous changes can be readily determined. Again, the ophthalmoscope comes in useful in these cases by enabling us to ascertain the condition of the fundus; a careful note should be made of whether the fundus is healthy or otherwise, for when the lens becomes generally opaque no further examination of the kind is possible, while in view of an extraction operation being subsequently called for, it is obviously important to know beforehand that the fundus is sound.

A few words are now necessary with regard to atropine in connection with these cases. In the first place the drug is of use for diagnostic purposes, that is, when the opacities are cortical and the surgeon is desirous of ascertaining their extent. Again, it is of much value as a mode of treatment in cases where the opacities are mainly central and the cortex is clear. The improvement in the vision which sometimes follows the instillation of atropine under these circumstances is very remarkable. The sight has been so much restored that ophthalmic surgeons have been credited with the performance of miracles. The dilatation of the pupil of course enables the rays of light to reach the retina through the periphery of the lens, which happens to be free from opacities. Whenever, then, central opacities exist causing much diminution in vision, the effects of atropine may be tried, and I am accustomed in these cases to recommend patients to continue its instillation as long as they can claim that their sight is improved.

Only a weak solution of the drug is required for these cases, that is to say, for continuous use drops of the strength of one grain to the ounce would be ample for the purpose. In the employment, however, of atropine, a word of warning

should be added. It is not a remedy to be used in a routine fashion. Indeed, in persons over forty years of age it should be as much as possible avoided, and in no cases of the kind should it be instilled until the tension of the eyeball has been carefully tested. Eyes in which the tension shows any signs of increase might easily pass into a glaucomatous condition were atropine to be heedlessly applied to them.

Having determined that a patient is the subject of senile cataract by the means already described, the next point is to ascertain whether any improvement in the sight can be obtained by the use of lenses. The declension of vision depends, as I have explained, a great deal upon the situation, the degree and the character of the opacities, and thus it happens that in some cases no improvement is possible with optical help, while in others distinct assistance may be so obtained. The tendency in commencing senile cataract is to add slightly to the refracting power of the lens, and hence, by correcting the myopia so induced, other conditions being favourable, it is sometimes possible to improve the vision. Furthermore, whether the distant vision can be improved or not, attention should always be given to the correction of the presbyopia. In incipient senile cataract the near vision can often be greatly improved in this way, thus making the patient correspondingly grateful.

I now come to a further detail of importance in connection with the treatment of these cases.

Patients suffering from incipient senile cataract are apt quite naturally to inquire, "What is the cause of the failure of my vision?" And then the surgeon is confronted with the momentous question: What answer shall be given? There is only one expedient way of dealing with the matter, and that is, so far as the patient is concerned, to observe a conspiracy of silence with regard to the real condition of affairs. From every point of view this is the best course to pursue. To tell a patient bluntly, for example, a lady, that she is suffering from commencing cataract, or even only to mention the word cataract in connection with her loss of vision, is almost equivalent to telling her that she is a victim of cancer. The public for the most part dread the one to the same extent as they are terrified by the other. They associate cataract with a prolonged period of progressive loss of sight followed by complete blindness; thus they look upon their vision as irrevocably doomed, and if it should happen to be within their experience that in the end an operation is the only available method of relief, their misery is still further increased. Truly it requires a strong-minded, philosophical patient, gifted with but little sentiment, to listen

complacently to a verdict which carries with it a sentence of blindness from cataract. But there are many reasons for withholding from patients suffering from incipient cataract the real nature of the diagnosis. First, it is not necessary to tell them, for there is nothing to be gained by doing so, while on the other hand much harm may result, both mentally and physically, by divulging the fateful information. Moreover, no surgeon can predict how the cataractous changes will progress, and oftentimes it has happened that a patient with striæ in each lens has retained useful vision for years without any noticeable advance having taken place in the opacities. The knowledge that this may occur—and we cannot discriminate with certainty between those cases that will and those that will not follow this course—makes it of obvious importance, apart from other considerations, to say nothing about the cataracts.

Quite recently two cases among others have come under my notice in which the mistake was made of adopting the opposite course. One was that of a lady who came to me from Lincolnshire. Two years and a half ago she said that an ophthalmic surgeon had told her that she was suffering from cataract in each eye. For a long time she was very much disturbed by learning this, and her health had suffered in consequence. But she did not think her vision had altered for the worse in the least, and she was consequently becoming somewhat reassured. On examination I found striæ in the cortex of each lens and a clear nucleus; the vision was $\frac{6}{9}$ in each eye, and with + 1·50 she read J. No. 1. at eight inches quite easily. Her age was 45, and in her case it is quite likely that for a long period yet her cataracts will not give her any trouble. The other case was almost identical in its history, but in this instance the patient had unfortunately conceived an intense feeling against the surgeon for "insulting" her by saying that she had cataracts. In each of these instances it would have been best to have said nothing about the real condition of affairs, more especially since they both clearly show that acquainting patients with unpleasant information, which is unnecessary, does not help us to retain their confidence. In this connection the following incident was recently related to me. A gentleman said in his Club: "I don't think much of Mr. —— [an ophthalmic surgeon]; he told me a couple of years ago that I had cataract; why, I see just as well now as I did when I went to him." Lastly, I may mention a case which typically shows the advantage of observing the rule of silence upon the question of incipient senile cataract. The wife of a clergyman in Hertfordshire was sent to me by Dr. Dickman, of Chiswick, in May, 1897.

She said that up to two years ago her eyesight had been very good, both for distance and reading. Since then, however, it had been gradually failing. Moreover, she complained of seeing black dots, and almost her first words were: "I hope that I have not got cataract, for several of my family have lost their sight in that way." On examination of each eye I found faint central lental striæ; the fundus was quite normal, and the following result was obtained on testing the vision:—R. $\frac{6}{18}$ — 2 = $\frac{6}{9}$ nearly; L. $\frac{6}{18}$ — 1·50 = $\frac{6}{9}$ nearly; accordingly — 1·50 were ordered for distance, and R. + 1·50 L. + 2 were ordered for near work; for with the latter lenses—her age was 65—she was able easily to read J. No. 1 at eight inches. She asked no further questions about the cause of her diminution of vision, and she was told to return in six months. The improvement in the vision by means of the spectacles so satisfied her that she quite forgot about the family failing, and I shall be interested to learn her further history.

[This lady called upon me again early in August last and expressed herself as quite pleased with the condition of her vision. The glasses had been of great use to her, and, except for the persistent black dots, she had little to complain of. On testing the vision the same result was obtained as at the time of her first visit, and no change could be detected in the condition of the lental opacities. No doubt in the future it will be necessary from the advancement of the opacities to tell this patient that she has cataracts, but meanwhile she is quite happy in her ignorance, and as long as she retains any useful vision there is no necessity to inform her of her condition.]

Another advantage to be obtained by observing a conspiracy of silence in these cases is, that patients, who have not been told that they have cataracts, will use their eyes without restraint, that is, so to speak, without making "invalids" of them. On the other hand, as soon as the word cataract is mentioned, the conviction at once seizes them that they must use their eyes as little as possible, with the view, as they say, to try and "preserve the sight." The pursuance of this course adds only to their misery. No good is to be gained by not using the eyes in cases of incipient senile cataract. Indeed, the vision as long as it lasts should be made the most of.

POST-GRADUATE TUITION IN LONDON.

By C. B. Keetley.

We attempt to give in each number of this Journal a full notice of the arrangements for post-graduate study in London, up to date. Strict impartiality has been aimed at, and it is hoped that the secretaries and deans of hospitals and schools will supply us with the necessary information. The well-known "London Post-Graduate Course" is directed by a committee (President, Mr. Jonathan Hutchinson), and it combines three hospitals, viz.: the Skin, Blackfriars; Bethlem; and the London Throat, Great Portland Street; with King's College Bacteriological Laboratory; the Parkes Museum of Hygiene; the Cleveland Street Infirmary; and the British Institute of Preventive Medicine. The next courses will commence in October. Courses can be taken out separately, and the fees are £1 1s. or £2 2s. at each institution, according to the number of lectures, &c. This does not include hospital practice, for which are charged fees, extra, but moderate. The prospectus for 1898 may be obtained of Dr. Fletcher Little, 32, Harley Street, W.

In connection with this course a "*Medical Post-Graduates' College*" has been opened at 22, Chenies Street, Gower Street, W.C., and all interested in post-graduate work are invited to inspect the building. Information with regard to the college will be given by Dr. Little.

Charing Cross Hospital.—Weekly lectures or demonstrations are given, arranged in three courses of ten each, two courses in the winter and one in the summer. Registered medical practitioners not requiring a certificate of attendance are admitted without fee to the practice of the hospital. The next course begins on Thursday, October 13. Fee £1 1s. each course. Thursday at 4 p.m. Beds, 180; in-patients about 2,000. Hon. Secretary, Dr. Willcocks.

West London Hospital.—Demonstrations twice a week arranged in three courses of eighteen lectures each. Wednesdays and Fridays at 5 p.m., commencing the second Wednesdays in January, May and October. Fee £1 11s. 6d. each course, but any practitioner can attend any ten lectures on payment of £1 1s. Fees for hospital practice £3 3s. for three months, or £5 5s. for a year, including all lectures and demonstrations. Registered medical practitioners are welcomed as visitors to the practice of the hospital without fee. Instruction in anæsthetics by the anæsthetists. Operations and clinical instruction in the wards and out-patients, 2 to 5 daily. Special demonstrations in the wards each week by the surgeons and

physicians. Beds, 150, of which 101 are now occupied, and the remainder will be in occupation on the opening of the new wing in November; in-patients 1,713. Clinical assistancies. Special departments for diseases of women, eye, ear, throat and nose, skin, and for orthopædics.

A comfortably furnished reading and writing room is provided for the use of post-graduates.

The library of the West London Medico-Chirurgical Society is open to such post-graduates as have been duly elected members of the Society.

Attendance at the Hospital practice during fifth year recognised by the Conjoint Boards of the Colleges of Physicians and of Surgeons of both England and Edinburgh, and by the Society of Apothecaries.

Hon. Secretary, Mr. Bidwell. Prospectus on application. (See advertisement.)

Royal Ophthalmic Hospital, Moorfields.—Fees for practice, perpetual, £5 5s.; six months, £3 3s. Clinical assistancies. Clinical work begins at 9 a.m. Operations daily, 10 to 1 p.m. Ophthalmoscope and other classes, three courses yearly at 7.30 p.m.; next begins in October. Beds 100; in-patients 2,184. Secretary, Mr. Robert J. Newstead.

Hospital for Consumption, Brompton.—Course of lectures and demonstrations. Wednesdays, at 4 p.m. Clinical assistancies (out-patient), attendance in each twice a week, at 12 noon. Clinical clerks (in-patient), twice a week, 10 a.m. to 12.30 p.m., and attendance afternoon of their physicians, three or six months. Fees, inclusive, £1 1s. one month; £2 2s. three months; £5 5s. perpetual. Beds, 321; in-patients, 1,681. For forms, &c., apply to Secretary, Mr. W. H. Theobald.

St. Peter's Hospital for Stone and Urinary Diseases, &c.—Clinical instruction in the wards daily. Out-patients, Monday, Tuesday, Thursday, 2 p.m.; Saturday, 4 p.m.; also Monday and Wednesday, 5 p.m. Consultations and operations, Wednesday and Friday, 2 p.m. Beds, 26. Free. Secretary, Mr. Irwin H. Beattie. (See advertisement.)

The Hospital for Diseases of Skin, Blackfriars.—In "London Post-Graduate Course." Next term, eight lectures. Wednesdays, 4 p.m.

Throat Hospital, Golden Square.—Lectures and demonstrations. Dates in medical journals. Fee, £2 2s. per course. For practice (including lectures), £3 3s. per quarter; £5 5s. per half year. Clinical assistancies, senior and junior. Attendance at 2.30 p.m.; Tuesday and Friday also at 6.30 p.m. Beds, 28.

London Throat Hospital, Great Portland Street.—Every Monday at 8 p.m. Fee, £1 1s.; hospital practice, one month, £1 1s.; two months, £2 2s.; perpetual, £3 3s.

The Victoria Hospital for Children.—The Medical and Surgical Staff propose giving a course of lectures upon "The Diseases of Children." The lectures will be delivered in the Board Room of the Hospital every Thursday afternoon at 4 o'clock, and each will be followed by a demonstration of cases. Practitioners and students of medicine are invited to attend. Syllabus to be obtained from Mr. D'Arcy Power.

St. John's Hospital for Diseases of the Skin.—Demonstration every Thursday at 4.30 p.m. Fee for course of eleven, £1 1s.; three courses, £2 2s. Composition fee for second and third courses, £1 11s. 6d. Superintendent, Mr. J. Dunlop Costine, 49, Leicester Square, W.C.

West-End Hospital for Diseases of the Nervous System, Welbeck Street.—A course of clinical demonstrations on diseases of the nervous system will be commenced on Tuesday, October 11, at 4 p.m. Full details are announced in the journals from time to time, and further information may be obtained from Hon. Sec. Post-Graduation Course, 60, Upper Berkeley Street, W.

British Institute of Preventive Medicine.—Laboratories open from 10 a.m. to 6 p.m. Instruction in bacteriology, bacteriological chemistry and in practical photomicrography. Fee, full month's course, including re-agents, &c., £5 5s. Open for original research. Apply to Dr. Macfadyen at the Institute, Chelsea Bridge, S.W.

Parkes Museum of Hygiene.—Demonstrations suitable for "sanitary officers" on Mondays, Wednesdays and Fridays at 8 p.m. Fee, £2 2s. On Wednesday and Saturday afternoons visits of inspection to sewage farms, dairies, main drainage works, &c. Museum and Library. Sec., Mr. E. White Wallis.

Mr. Hutchinson gives demonstrations at his museum, Park Crescent, Wednesday afternoons.

Bacteriological Department, King's College, London.—Practical course for medical practitioners, veterinary surgeons, analysts, &c., commences October 5. The special instruction for candidates for the Diploma of Public Health given daily. Apply to the Secretary.

All the leading medical schools have courses suitable for candidates for the Diploma of Public Health. And all the hospitals with schools are glad to receive visits from graduates, but the latter have necessarily, except at isolated visits, to give way to the regular students and undergraduates. The days and hours of attendance and of the principal operating days are given in the weekly journals.

The museum and library of the Royal College of Surgeons

are open daily, and access is readily obtained to them by British, American and foreign graduates and diplomats: Secretary, Mr. Trimmer; Librarian, Mr. V. G. Plarr. Special permission is required to visit the museum on Friday and Saturday. Library hours 11 a.m. to 7 p.m. (to 1 p.m. on Saturdays). Museum hours 11 a.m. to 4 p.m. till February 28 (to 5 p.m., March 1 to August 21).

DYSPEPSIA IN CHILDREN.—Magniaux (*La Presse Médicale*, May 19, 1897) says that dyspepsia is very common in childhood but is frequently overlooked, its victims being treated for anæmia, commencing tuberculosis, &c. In consequence iron, creosote, quinine and wine, all which are irritants of the mucous membrane of the stomach, are given often with unpleasant results. The author having examined eleven children presenting the symptoms of dyspepsia draws the following conclusions: all were badly nourished during the first years of life; eight were bottle-fed; three were allowed a mixed milk diet; and all were rachitic to a variable degree. A dyspeptic child may be abnormally thin, or large and fat, the two types representing only two successive stages of dyspepsia. In all of these cases the stomach resonance extended down to, or even below, the umbilicus. There was always excessive thirst, and usually loss of appetite, though in two of the children the appetite was abnormally great. Constipation was frequent, often alternating with diarrhœa. Nausea, vomiting, and heartburn were frequently observed. At times the gastralgia was so marked that it might easily be thought to be due to ulcer of the stomach. Headache and night terrors were common. Hydrochloric acid was usually found to be in excess, although it was entirely absent in certain cases, and at times it was normal in amount. As a general rule alteration in the gastric juice played a secondary part, while muscular atony was the most important feature of the disease. Treatment was for the most part dietetic. Medicines were prescribed in only four of the eleven cases, and consisted of bicarbonate of soda, powdered nux vomica, and hydrochloric acid. In all cases the treatment had but one object, that of permitting the overworked stomach to rest as much as possible. This was accomplished by reducing the number of meals, by establishing their regularity, their character, the fine division of the food, and the regulation of the amount of liquid. The results obtained were very satisfactory.

The Mirror of Practice.

A CASE OF HÆMORRHAGE FOLLOWING REMOVAL OF ADENOID VEGETATIONS.

By James B. Ball, M.D.

Physician to the Throat Department West London Hospital.

The following is the only case of troublesome hæmorrhage after an operation for adenoids that I have met with, either in private or hospital practice:—

The patient was a girl aged 14, with enlarged tonsils and adenoid growths, the removal of which was deemed advisable in consequence of deafness and frequently recurring attacks of otitis media. In other respects she was healthy. The operation was performed in a nursing home at 9 a.m. The tonsils were excised with the guillotine, and the adenoid growths with a Gottstein's curette, under chloroform anæsthesia. The bleeding at the time of the operation was of the ordinary amount, and when I left the home half an hour after the operation, it had practically ceased. I saw the patient again at 1.30 p.m. the same day, when she seemed perfectly comfortable, and there was no sign of bleeding having persisted. At 7 p.m. I was hastily summoned to the home, and when I got there a few minutes later, she presented signs of having lost a large quantity of blood. It appeared that between five and six o'clock she began to spit up a little blood, and some blood kept trickling from the nose. Between six and seven o'clock she twice vomited large quantities of blood, and gradually became more blanched, and passed into the condition in which I found her. Blood continued to trickle in small quantity from the nostril corresponding to the side on which she lay, and she swallowed blood at frequent intervals. My first impression when called to her was that the bleeding was from one or other tonsil. I examined the throat and found a large blood-clot which extended from the naso-pharynx for some distance down the pharynx. I removed the clot and on careful examination I satisfied myself that there was absolutely no bleeding from either tonsil, but a steady trickling of blood could be perceived coming from above. I syringed hot water through the nose, and for a time this seemed to produce some benefit, but soon it was evident that the bleeding was continuing. The condition of the patient was growing worse, and she again vomited a considerable quantity of blood. I therefore decided to plug the naso-pharynx. For this purpose I passed a thread through one nostril with the

aid of a soft catheter, and brought the end out through the mouth. To this I tied a sponge (thoroughly aseptic), sufficiently large to pack the naso-pharynx firmly, and introduced it by drawing on the thread and pushing the sponge up with the finger. This arrested the bleeding, and after waiting about an hour, and being quite satisfied that no bleeding was going on, I left the patient. There was no return of bleeding, and on the following morning I removed the sponge cautiously. No further bleeding occurred and the patient made a good recovery. I may add that there was no evidence of any diathetic tendency to bleed in this case.

We are all familiar with the briskness of the bleeding which attends the operation for adenoid growths in the naso-pharynx, and with the rapidity with which it ceases, however profuse it may be at the moment. The hæmorrhage from tonsillotomy is not so abundant at the time of the operation, yet we feel more anxious about the possibility of its continuance than we do after removal of adenoid growths. It is not a very unfrequent occurrence, especially in older children and adults, for hæmorrhage, from the stump of a tonsil, to persist sufficiently long to cause anxiety, or to recur after it has apparently ceased; and of course serious cases have been reported occasionally, in which the external or common carotid artery has had to be ligatured in order to arrest the hæmorrhage. On the other hand, the bleeding after adenoid operations ceases so rapidly, and has so little tendency to recur, that we are apt to regard the danger from that quarter as almost *nil*, whatever the age of the patient.

It must be remembered, however, that from time to time cases of serious hæmorrhage after removal of adenoids have been reported. A few of them, including some fatal cases, have occurred in subjects of the hæmorrhagic diathesis, and of course it is obvious one should not think of operating for enlarged tonsils or adenoid growths in any case where this diathesis was suspected. Several cases of serious hæmorrhage following removal of adenoid vegetations are referred to in a discussion which took place in the Laryngological Section of the New York Academy of Medicine, reported in the *Laryngoscope* of April, 1898. In some of these cases the hæmorrhage occurred immediately, in others at varying periods of from two to twenty hours after operation. The patients were of various ages, from 2 to 28 years, and the operation was variously performed with the finger nail, the post-nasal forceps, or Gottstein's curette. A general anæsthetic was employed in some cases, and not in others.

OMENTAL ADHESIONS PRODUCING CHRONIC OBSTRUCTION—DIVISION OF ADHESIONS.

By Leonard A. Bidwell, F.R.C.S.

Senior Assistant Surgeon to the West London Hospital, &c.

The following case is an example of the production of chronic intestinal obstruction by a band of adherent omentum. The abdominal pain and irregularity of the bowels were relieved by the division of the omental band.

Mrs. P., aged 47 years, was sent to me at the West London Hospital by Dr. Dickman, of Chiswick, on June 25, 1898. Four years previously she had been in the Cambridge Hospital for ulceration of the womb. About three years ago she began to have difficulty in getting her bowels open, and six months after this she commenced to suffer from pain in the left lumbar and iliac regions. She also had considerable bearing-down pain when trying to get an action of the bowels. There had never been complete obstruction, but she was never quite free from abdominal pain. She had occasionally passed blood from the rectum. For the last three years she had had occasional attacks of incontinence of urine. She had lost flesh during the last two years. The stomach had swollen, and the pain had become much more severe during the past few months.

On Admission.—The patient was rather emaciated, with foul tongue and slightly tumid abdomen. On examination of the abdomen nothing definite was found; there were no dilated coils of intestine, but there was some tenderness on palpation in the left lumbar and iliac regions.

Per Rectum.—The rectum presented extreme ballooning; bi-manually a thickening resembling a stricture could be felt at the lower end of the sigmoid.

Per Vaginam.—Nothing abnormal was detected.

There was incontinence of urine; the urine had a sp. gr. of 1014 and contained pus, and gave a slight cloud of albumen. The bowels were obstinately constipated, and only acted after castor oil and enemata.

On June 30 the patient was put under the influence of ether, and the abdomen was opened by an incision 3½ inches long in the left linea semilunaris. At first the sigmoid flexure could not be seen, as it was covered by a portion of the great omentum, which was adherent in the pelvis. A hard lump was felt in the left side of the pelvis; on being brought into the wound this proved to be a small tense ovarian cyst. As the adhesions of the omentum were very dense it was impossible to separate them, so

the omentum was divided between two rows of ligatures. It was then seen that the omentum had been adherent to the left ovary, left broad ligament, and side of uterus, and had exercised considerable pressure on the sigmoid flexure. The bowel itself was quite healthy. The left ovary and tube were removed. The pelvis was sponged out and the wound closed with a continuous silk suture for the peritoneum, and interrupted silkworm gut sutures for the skin and aponeurosis.

The patient made a good recovery, but her convalescence was retarded by some subcutaneous suppuration which necessitated some counter openings. She had no further pain nor difficulty in getting the bowels to act, and her bladder symptoms improved.

Remarks.—This is a case illustrating the value of abdominal exploration in obscure cases. The history of the case suggested the existence of malignant stricture of the sigmoid, and the importance of early operation in such cases cannot be over-estimated. The illness from which the patient suffered four years before in the Cambridge Hospital was probably the starting point of the disease. It probably consisted in some pelvic peritonitis round the diseased ovary, and so caused the adhesion of the omentum to the parts. The relief afforded by division of these adhesions should be permanent.

It is interesting to note that in four other cases of chronic obstruction from adhesions the symptoms produced were usually pain and diarrhœa, with mucus and blood in the motions, whereas in this case there was never diarrhœa but obstinate constipation, and rather severe pain. Laparotomy was performed in the four above-mentioned cases with success, and a report of them will be found in the WEST LONDON MEDICAL JOURNAL for July, 1897. The presence of "ballooning" of the rectum is an important sign of obstruction of the sigmoid flexure, and enables one to diagnose cases where the growth is out of reach.

TO DETERMINE THE DEATH OF THE FŒTUS.—Knapp has shown that the death of the fœtus is accompanied by the appearance of acetone in the urine of the mother. This may easily be demonstrated, according to *La Presse Med.*, May 22, 1897, by the fuchsin test of Chautard. A solution of fuchsin, 1 to 2,000, is decolourised by sulphuric acid. To make the test, half an ounce of urine is poured into a test tube, and a few drops of the fuchsin solution added. If acetone be present, the colour of the urine becomes violet, the depth of colour depending on the amount of acetone. This simple test is within the reach of every practitioner.

Reviews and Notices of Books.

SHAW-MACKENZIE ON MATERNAL SYPHILIS.[1]

THAT Dr. Shaw-Mackenzie should have written a book on maternal syphilis is only in accord with the natural course of things, inasmuch as he has had a large experience of syphilis in women, and besides has devoted for many years special attention to the subject. He says in the preface that "the presence of pelvic trouble, often associated with minor syphilitic sequelæ, and for the most part with abortion or delivery, leads me to think that syphilis as a factor in many cases of pelvic disease in women is deserving of wider recognition at the present time," and that consideration of his cases has further led him to think that the maternal origin of syphilis in the offspring, in consequence of maternal acquired or inherited disease, is more probable in doubtful cases than the paternal origin, and "syphilis by conception in the mother," which is usually accepted. Moreover, he adds, "I have been chiefly influenced in taking this view by the modified and sometimes ephemeral nature of primary disease in women; the presence of pelvic disease in nulliparous women the subjects of inherited syphilis; the activity of virus and the relapse of syphilis in pregnancy, under the stimulus of conception, and also at the menopause; the intense primary lesion of obvious syphilis acquired in pregnancy; the prevalence of pelvic disease in parous women; and the immunity, partial or complete, in mothers of syphilitic offspring, conferred by full pregnancy and delivery." After a preliminary description of the current views of primary syphilitic infection, and extra-genital syphilis, he discusses in a practical manner the manifestations of syphilis in women, syphilis in relation to pregnancy, sterility, and abortion, and the minor complications of childbed explained by syphilis. In chapter vi. syphilitic affections of the anus and rectum, warts, condylomata and mucous tubercle are respectively dealt with, and then a chapter follows with remarks on the nervous system, skin, dyspareunia and manifestations or relapse at the menopause. In respect to the latter, the author affirms that syphilitic symptoms do not apparently subside after the climacteric, indeed, he adds in such cases the symptoms are marked by severity, and when bleeding and erosions are present, malignant disease either of the uterus or vagina is

[1] "On Maternal Syphilis, including the Presence and Recognition of Syphilitic Pelvic Disease in Women," by John A. Shaw-Mackenzie, M.D.Lond. London: J. and A. Churchill, 1898.

resembled. There is every reason, therefore, for pushing anti-syphilitic treatment in doubtful cases. Chapter viii. is devoted to the discussion of immunity in nulliparæ and relapsing genital lesions in man, and chapter ix. to immunity in the mother, hereditary syphilis, the nature of immunity and the origin of inherited syphilis. Upon all of these subjects the author has much to say which is to the point, while his remarks are distinctly of value as being based upon actual experience. The concluding chapter deals with the all-important question of treatment, and so far as this is concerned we must refer our readers to the book itself. Space does not permit us here to epitomise the methods of treatment which in the hands of the author have yielded the best results. Dr. Shaw-Mackenzie has in this volume contributed a valuable monograph to the literature of syphilis, the perusal of which will not only well repay those who belong to his own speciality—gynæcology—but every practitioner desirous of extending his knowledge of the disease.

HYDE ON BUXTON.[1]

In this the fourth edition of his popular work, the author has made several improvements. The chapter on "The Medical Action and Uses of the Waters and Baths," has been entirely re-written, while a new chapter has been added on "Buxton as an Educational Centre," as well as one on "Buxton as a Resort for Consumptives." For the rest we need only add that the popularity which this little work has enjoyed during the nine years of its existence will, we feel certain, be further enhanced by the addition and revisions which the author has introduced into the new edition.

CORFIELD ON DWELLING HOUSES.[2]

A fourth edition of this well-known little manual having been called for, the author has taken the opportunity of again carefully revising it throughout. As a complete handy guide, on a small scale, upon the subject of house sanitation it remains unequalled.

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[1] "Buxton: its Baths and Climate, comprising a full account of the Celebrated Waters and Climate of Buxton, together with special chapters on Baths, Bathing and Massage." Fourth Edition revised. By Samuel Hyde, M.D., Vice-President and Chairman of Council, British Balneological and Climatological Society. Manchester: John Heywood, 1898.

[2] "Dwelling Houses, their Sanitary Construction and Arrangements." Fourth Edition, with illustrations. By W. H. Corfield, M.A., M.D.Oxon, F.R.C.P.Lond., Hon. A.R.I.B.A., and Honorary Sanitary Adviser to University College Hospital, Professor of Hygiene and Public Health in University College, London. London: H. K. Lewis, 1898.

GANT ON OUR DEAD SELVES TO HIGHER THINGS.[1]

For literary merit and high ideals this book has already attracted a great deal of notice, and that it should have been written by a well-known surgeon is an honour to the profession to which he belongs. Mr. Gant's tastes, especially of recent years, have been displayed in many literary enterprises, and his energy in this direction has been not a little remarkable. A detailed criticism, however, of the volume before us, from the originality of its conception, belongs more to the theologian than to the medical man, nevertheless it plainly shows how earnestly Mr. Gant has followed pathways of thought which demonstrate the absence of any antagonism between religion and science.

MANSELL-MOULLIN ON INFLAMMATION OF THE BLADDER AND URINARY FEVER.[2]

The author's plea for introducing this little book to the profession is a threefold one. In the first place he wishes to call attention to the fact that a cystitis is always due to the presence of micro-organisms; secondly, that urinary fever is a septic infection; and thirdly, he thinks the time has arrived when more stress should be laid upon aseptic treatment of the bladder and urethra—in other words, one must not forget that all instruments, as catheters and bougies, are septic until they have been thoroughly sterilised, and maintained in an aseptic condition.

The different ways of obtaining this much-to-be-desired end are clearly laid down, though the author does not say which of the different methods given is the one which he usually employs. He strongly objects to using any kind of grease as a catheter lubricant, on account of the great difficulty in sterilising a greasy instrument, even after a good washing in soap and water.

A very interesting chapter is that on the organisms found in the urine in suppurative cystitis, in which an account is given of the different forms of bacteria found, among which it appears that the bacterium coli is the most common, the

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[1] "From our Dead Selves to Higher Things, a course of human experience and progressive development." Second and complete Edition. By Frederick James Gant, F.R.C.S., author of "The Science and Practice of Surgery," &c. London: Bailliere, Tindall & Cox, 1897.

[2] "Inflammation of the Bladder aud Urinary Fever," by C. Mansell-Moullin, M.D.Oxon., F.R.C.S., Surgeon and Lecturer on Surgery at the London Hospital; Examiner in Surgery at the University of Oxford. London: H. K. Lewis, 1898.

author having found it in twenty-five of the thirty specimens examined, *i.e.*, exclusive of tuberculous cases. He further shows that this is the experience of Hallé and Albarran.

One of the best chapters is that on urinary fever; it is well and clearly written, and will amply repay perusal.

In conclusion, the author is to be congratulated in having produced a learned and at the same time very readable treatise, and one which throws considerable light on many subjects within its scope.

MESSRS. DOWN, BROS., of St. Thomas's Street, have sent us a copy of their new Catalogue of Surgical Instruments and Appliances, which as a reference book for all the newest improvements comprised therein, will be found of much use.

LIBRARY REPORT.

All the bound volumes of the library are now to be seen on shelves which stand right and left of the entrance to the new meeting place of the Society, in the top ward of the new wing of the hospital.

Access can be had to them any afternoon, except Saturday, between the hours of 1 and 6. Members desiring to borrow books will please apply, in the absence of the Hon. Librarian, to the porter in charge.

A reading and writing room adjoins the ward and is open to all Members of the Society. Now the books are so accessible it is earnestly hoped that the Members of the Society will individually try to add to their number. Contributions either of bound books or of money will be gladly received by the librarian and acknowledged in the JOURNAL.

At present some embarrassment is caused by the possession of large masses of unbound journals, reviews, and pamphlets, without funds to bind them.

BOOKS RECEIVED.

Buxton: its Baths and Climate, comprising a full account of the celebrated Waters and Climate of Buxton, together with special chapters on Baths, Bathing, and Massage. Fourth Edition, revised. By Samuel Hyde, M.D., Vice President and Chairman of Council, British Balneological and Climatological Society. Manchester: John Heywood, 1898.

A Catalogue of Surgical Instruments and Appliances, with Appendix. By Messrs. Down, Bros., 21, St. Thomas's Street, S.E., 1898.

Dwelling Houses, their Sanitary Construction and Arrangements. By W. H. Corfield, M.A., M.D.Oxon., F.R.C.P. London, &c., Professor of Hygiene and Public Health, University College, London; Medical Officer of Health for St. George's, Hanover Square. Fourth Edition, with illustrations. London: H. K. Lewis, 1898.

Chloroform: its absolutely Safe Administration. By Robert Bell, M.D., F.F.P.S., &c., Senior Physician to the Glasgow Hospital for Diseases of Women, &c. Glasgow: R. L. Holmes, 1898. (Pamphlet.)

THE BOOK CLUB.

THE BOOK CLUB, in connection with Lewis's library, flourishes. Subscription, 11s. 6d.

THE LIBRARIAN.

Miscellaneous Extracts.

EMPYEMA OF THE ANTRUM.—In discussing a new operation for the cure of obstinate instances of disease of the antrum of Highmore, Dr. H. A. Lothrop (*Boston Medical and Surgical Journal*, May 14) presents the following conclusions: That the relation of the openings of the accessory nasal cavities is not constant, and that fluid may gravitate from one to another according to the position of the head. That the antrum is a reservoir for pus, of primary or secondary origin. That many cases of empyema of the antrum are never cured; therefore further efforts are needed, which must be in the line of surgery. That the more radical operation with the idea of drainage has relieved cases hitherto incurable. That there are important objections to a large canine or alveolar opening with the idea of establishing permanent drainage. That permanent nasal drainage is less objectionable than oral drainage. That the removal of the lower half of the naso-antral wall prevents further pus retention and thereby allows the antral mucous membrane to resume a healthy condition. That the operation suggested is of short duration and not severe, although most radical. That, by this procedure, the antral cavity is rendered easily accessible to frequent irrigations by the patient and to local applications and occasional inspection by the surgeon.

TREATMENT OF FŒTID BRONCHITIS AND PULMONARY GANGRENE BY HYPOSULPHITE OF SODA. — The *Revue de Thérapeutique* of March 15, 1897, records the fact that Dumas

has employed this treatment in a large number of cases of bronchiectasis and in tuberculosis with cavities for the purpose of combating the fœtid character of the expectoration and modifying the septic condition of the bronchial tubes. He has employed creosote, guaiacol, myrtol, menthol, and a large number of other substances, such as eucalyptus and turpentine, but has obtained the greatest advantage from the use of the hyposulphite of sodium. He claims that this substance may be taken each day in the dose of from two to three drachms without difficulty; that it is eliminated partly by the urine and partly by the lungs. He has found that as much as half an ounce acts as a laxative and half as much again as a purge. Its action is not immediate. He considers that the hyposulphite of sodium is contra-indicated where there is a tendency to hæmoptysis, and for this reason it has to be used with some caution in phthisical patients with cavities. It does the most good in modifying the character of the expectoration in gangrene of the lung, being particularly useful in those cases which arise from traumatism, from the inhalation of irritant or toxic materials, or from gangrene of the lung complicating other diseases.—*Therapeutic Gazette.*

Disinfection of Steel Sounds.—A good method for ready disinfection of steel sounds is to immerse them for a moment in alcohol, and then after removal to ignite the spirit that adheres.—*Med. Summary.*

Pruritus Ani.—Samways says he has found that the itching in cases of pruritus ani disappears at once on the application of simple collodion. After a few moments of somewhat intense smarting (which can be prevented by cocaine if necessary) no further itching is felt ordinarily for twelve or twenty-four hours, if at all. He supposes that the ether or alcohol in which the gun cotton is dissolved stops the irritation, and the collodion film, by protecting from the air, prevents its reappearance. In cases of external piles he has observed that the application stimulates the pile to contract, that the hardening film of collodion supports the pile thus contracted, and that the contracting collodion (not collodion flexile) further reduces it. It is the principle of the elastic stocking applied to the hæmorrhoidal instead of the saphenous veins, he says, and with a like result. The collidion is best applied by dropping it on a few fibres of cotton wool, which are spread over the pile each morning after defæcation.—*American Journal of Surgery and Gynæcology.*

SUPERNUMERARY URETER.—M. Albarran related an interesting case before the meeting of the Société de Chirurgie, of a young woman of 20 who from her birth suffered from incontinence of urine. The vulva was constantly in a moist condition, although she could micturate normally by the urethra. When he saw her for the first time a year ago, he perceived beneath the urethra and at the outlet of the vagina several small depressions; two of them corresponded to minute fistulæ through which the urine constantly oozed out. The cystoscopic examination showed that both ureters opened normally into the bladder, while a fine catheter passed through the fistula in the vagina did not penetrate into the vesical organ. The speaker diagnosed the existence of a third ureter, and decided on connecting it with the bladder. Having made a transverse incision above the pubis, he opened the bladder, and placed two catheters in both ureters. He then made another incision in the vagina in the form of an inverted T, cut through the supernumerary ureter, and made it penetrate the bladder behind the trigone. The hypogastric wound was closed, and a catheter *à demeure* was placed in the bladder, while the vaginal incision was sutured with catgut. The seventh day after the operation the urine recommenced to flow through the vagina, because two of the stitches had yielded. The operation had to be done over again, but this time with complete success. For the last two months the urine had entirely ceased to flow through the vagina.—*Paris Cor. Med. Press and Circular.*

ETHER NARCOSIS IN CHILDREN.—Stoss says (*Muench. Med. Woch.*) that since the work by Demme and Gerhardt in 1882 on anæsthetics, no thorough study on ether-narcosis in children had appeared in German pediatric literature. Demme expressed his preference for chloroform, and his view is to-day generally accepted. A study, however, of deaths by chloroform teaches us that its use in children is by no means devoid of danger, and that the number of deaths in children due to chloroform narcosis is not small. The author's experience of 200 ether-narcoses in children convinces him that even in the youngest child this anæsthetic did not possess the disadvantages with which it was charged. The irritation produced on the mucous membrane of the trachea and bronchi was slight. Narcosis can be induced in infants in two minutes, and in older children in two to five minutes. The stage of excitation is not greater than with chloroform, and vomiting not more frequent. Sudden arrest of respiration with dangerous symptoms was never observed. The recovery from the influence of the anæsthetic is more rapid

than with chloroform, and the after effects are slighter. Infants usually take the breast or the bottle within a short time after awakening, without any tendency to vomit. Pneumonia and nephritis were never occasioned by the ether, and he recommended the substitution of ether for chloroform. —*Pediatrics.*

FORTY-SIX CASES OF PLACENTA PRÆVIA.—Platzer (*Centralbl. für Gynäkol.*, Aug. 14, 1897) presents a clinical report of forty-six cases of placenta prævia. The results were as follows: (1) After expectant treatment, that is to say, by tampons or artificial rupture of the membranes (23 cases), the mortality of the mother was 0, that of the child 39 per cent.; really, however, only 18 per cent., as two of the births were premature and in four cases the child was already macerated. (2) After podalic version and spontaneous expulsion (8 cases) the mortality of the mother was 0, that of the child, excluding two macerated fœtuses, 83 per cent. (3) After version and immediate extraction (13 cases) the mortality of the mother was 23 per cent., that of the child 46 per cent. From these statistics it appears that extraction is unfavourable for the mother and ought, therefore, to be rejected, even though it is somewhat more favourable for the child.

CREOSOTE IN GASTRO-ENTERITIS IN INFANTS.—On account of its antiseptic power Zangger (*La Presse Medical*, August 7, 1897) employs creosote in the gastro-enteritis of infants, using the following formula:

℞ Creosote ... ... ♏ iij.
Alcohol ... ... ♏ xv.
Distilled water ... ... ʒ iii.

M. Sig. One teaspoonful three or four times daily.

In acute cases, vomiting and diarrhœa cease after three or four spoonfuls of the medicine have been administered. Often the cure is complete in a few days. In cases which have lasted a week or ten days before treatment is commenced, the creosote will arrest the vomiting, but has little effect upon the diarrhœa, which has to be treated in the usual manner with calomel, bismuth, &c.

SUCCESSFUL TREATMENT OF A LARGE ANEURISM OF THE AORTA BY INCREASING ARTIFICIALLY THE COAGULABILITY OF THE BLOOD.—At a recent meeting of the Académie de Médecine, Lancereaux (*Deutsche medicinische Wochenschrift*, August 12, 1897) reported the case of a man with an aneurism of the ascending aorta as large as a child's head, which had eroded a portion of the sternum and

the cartilages of several ribs, was palpable immediately beneath the skin, and appeared about to rupture. Upon the basis of previous experiments upon animals, an attempt was made by means of injections of gelatin to increase the coagulability of the blood in order to augment the formation of clots along the wall of the sac. Accordingly injections were made in the gluteal region until, in the course of two months, the amount of gelatin in the solution injected equalled more than two quarts. In the mean time the tumour became firmer and distinctly reduced in size, although some pulsation continued to be transmitted. The severe subjective discomfort present at first wholly disappeared, so that the patient declined to continue the treatment longer.

Prognosis in Hemiplegia. — Lodor (*Medicine*, October, 1897) says there are three points which, when taken together, give a fair indication of the permanency of the paralysis in hemiplegia. They are the voluntary motor power of the patient, the spastic rigidity, and the increased reflexes. To reduce the problem to almost a mathematical level, let it be supposed that the fibres composing the pyramidal tract of one side number one hundred. Suppose that ten of the fibres are destroyed by degeneration subsequent to hæmorrhage. If such be the case, after a lapse of three to six months, the patient should have recovered nine-tenths of his original power, with the increase in reflex represented by one-tenth and the rigidity or spastic condition scarcely noticeable. On the other hand, suppose that the reflexes are exaggerated one-tenth, the voluntary power reduced to zero, and no rigidity. With such a condition it is fair to suppose that nine-tenths of the fibres are intact and out of reach of the patient's will, either from former pressure of the clot, or from long disuse, and that recovery may take place to the extent of nine-tenths of the former power. Again, suppose the patient presents the following points: motor force reduced to one-tenth, reflex markedly increased, and rigidity great. With such symptoms it is fair to presume that approximately nine-tenths of the fibres have been destroyed, and that further recovery cannot take place. Experience has shown that these points are to be relied upon with almost mathematical precision.

Creosote for Constipation.—For this purpose the drug should be adminisiered in drop doses, twice daily, after breakfast and dinner. It should not be prescribed in capsules or pearls, but should be taken in milk, beer, wine, etc. After a few days the dose should be gradually increased to ♏. vii. twice daily.

MAPRONI'S METHOD OF ENTEROSTOMY AND ENTERORRHAPHY (as described in the *Gaz. degli Osp. e delle Clin.* of July 18) consists of an invagination of the intestines after the two stumps have been sutured together with a Czerny-Lembert suture. The inferior section is slipped into the superior for 5 or 10 mm., bringing the surfaces of the mucous membranes into contact, as also the serous. The triple thickness is then sutured through the two outside layers and partially through the inner, with double threads, each stitch 2 to 4 mm. long. A second row of stitches is taken parallel to the first, passing through the first two strata of the inferior portion of the intestine. The ends of the threads of the superior row of stitches are then tied two by two with the threads from the second row, which must be very close to the fold to prevent tearing out. This method is adapted to all cases of transverse section of the intestines, and combines the advantages of the Murphy button and the Wölfler method, according to the inventor, who is surgeon to the Milan *Poliambulanza.—Journal of the Amer. Med. Assoc.*

NOTES ON NEW PREPARATIONS.

Hypophosphites Compound "Tabloids."—Borroughs, Wellcome and Co.—We have received from this well-known firm some of their compound hypophosphites tabloids, and we can confidently recommend the same. All the therapeutic activity of the several constituents of the tabloids is obtained, and that without there being any risk of giving a poisonous dose of strychnine. This latter is to our mind one of the great advantages of the tabloid administration of drugs, no danger of over-dose exists and a complete freedom from a mistake in the drug dispensed is secured. Two strengths of these tabloids are issued, and we feel sure that they only need to be used to prove that they meet a want.

Zinc Oxide "Tabloids."—Burroughs, Wellcome and Co.—The same firm have also submitted to us their zinc oxide tabloids. The therapeutic uses of zinc oxide are many, and there is little doubt that the imperfect solubility of the pill form in which this drug is so often dispensed, has discouraged its more frequent use for internal administration. The rapid disintegration of a "tabloid" zinc oxide, as shown when it is dropped into water, should remove this objection. It is particularly useful in the bacterial diarrhœa of infancy, in

gastralgia, and in certain cases of epilepsy of peripheral origin. Also in chronic alcoholism with tremors, its use has been abundantly demonstrated.

Ergot Aseptic.—Parke, Davis and Co.—It is essential that all drugs for hypodermic administration should be absolutely aseptic. Therefore we hail with pleasure one more which will stand the test of the incubator and a nutrient medium. All extractive material should be removed from preparations which are intended for injection under the skin, and the simple experiment of adding three or more volumes of absolute alcohol to the preparation will immediately prove whether this is so or not, for a precipitate will soon appear if harmful extractives be present.

Cadbury's Cocoa.—In these days when the adulteration of food materials should be much less frequent than it used to be, it would seem that cocoas and chocolates are by no means as free as they might be from extraneous matters. Kola, malt, hops, &c., possibly good in their right places, are positively harmful if introduced into preparations which are in constant use as beverages. It is this habit of admixture that enables us to confidently recommend Cadbury's Cocoa as safe and beneficial for the old and young. For children it forms an ideal beverage, promoting healthy growth and development to a remarkable degree.

NOTES AND NEWS.

THE progress now being made in matters affecting the welfare of the West London Hospital, our Society, and the Post-Graduate School is both satisfactory, and not a little refreshing. Probably by the time that this number of the JOURNAL reaches the members, the beds in the new wing will be in occupation, and the upper floor will have been completely furnished for the reception of the members at the opening meeting of the new—or seventeenth—session of the Society, on October 7. There is something proverbially attractive about "sweet seventeen." Moreover the number "7" and its multiples, to the pardonably superstitious, is always lucky. The Society, therefore, having attained that period of its existence when the buoyancy and attractiveness of life should be most displayed, it is quite in accord with the natural fitness of things that a new home and new surroundings should have been provided for it in order to mark its gratifying advancement. There is no doubt that a great deal of energy has been thrown into the Society and its concerns

from the commencement. The fruit, however, which this has borne would not have been possible save for the cohesion and *esprit de corps* which has ever prevailed among those to whom its destinies have from time to time been entrusted. Nevertheless it may be pointed out that the result which can be chronicled to-day has not been arrived at without some, at least, personal sacrifice. Willing workers for the Society have made work for themselves in promoting the success of that in which they have taken a deep interest, and in doing so they have naturally added to the duties of their successors. Hence every year the work of the Society has increased, and a greater responsibility has thus fallen upon those who accept the duties of its offices.

THE "Bogey score" for a cataract extraction which I recorded in "Notes and News" in a recent number of the JOURNAL seems to have excited some attention. It would be interesting to compile "Bogey scores" for other operations. I wonder how many strokes the Colonel would take, for example, to perform an abdominal hysterectomy for malignant disease with many adhesions. The "hazards" in such a case could not fail to be disturbing, and "Medal Play" would be probably quite out of the question. Besides, there would be sure to be a good many "Stimies." The Colonel is supposed to be a person who never makes mistakes, and that is just the reason why he is so often held up to execration by golfers.

WHETHER the following lines are a paraphrase, or a parody, or neither one nor the other, or a mixture of both, I leave to others to determine. But it will be perceived that they have something to do, more or less, with Longfellow's poem, "The Psalm of Life."

We could tell from charts—in numbers,
Germs are not an empty dream—
For the wound is spoilt that cultures
Those which come from things unclean.

Art is long, and science teaching
Surgeons to be bold and brave—
Lister has done much in ceasing
"Funeral marches to the grave."

Germs are real, germs are earnest,
Open wounds their fav'rite goal,
There they meet with foes the sternest,
Germicides, which have no soul.

Lives of bad germs all remind us
We must keep our wounds "sublime," [1]
Then, departing, leave behind us
Record cases of our time.

Let us then continue doing
With a heart that does not shirk;
Both destroying and pursuing
Germs which spoil our handiwork.

But apart from thoughts thus borrowed,
What remains for us to say,
Of the man—who lately sorrowed—
Of Lord Lister of to-day.

Let us pause, with breath suspended,
And reflect what he has done—
On anguish stayed, lives extended,
Death delayed, and triumphs won.

THE death roll of the Society during the past year has happily been limited, nevertheless the members will regret to see from the Annual Report that we have lost Dr. Leonard Remfrey, Mr. E. C. Cotterell, and Mr. W. S. Battiss. A curious incident is that both Mr. Cotterell and Mr. Battiss were elected on the same day, namely, March 6, 1896, while Dr. Remfrey only became a member of the Society three weeks before his sudden death, his election having taken place in October of last year. That a life of such promise should have thus been untimely ended is an additional reason for regretting the loss which the Society has sustained. Mr. Battiss was not known to many of the members. He was formerly a student of the London Hospital, and obtained his qualifications in 1880, and at the time of joining the Society was in practice in The Grove, Hammersmith. Last year, however, he removed to Dorking, where he died a few months afterwards. The death of Mr. Cotterell left a vacancy on the staff both at the Cancer Hospital and the Male Lock Hospital, Soho. His medical education was obtained at University College Hospital, where he distinguished himself. Among students, perhaps, he was best known as the author of that handy little volume "The Pocket Gray," compiled during the time that he was a demonstrator of anatomy at University College Medical School. Just at the time when all his work was beginning to bear fruit death suddenly overtook him, and his career of usefulness came to an end.

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[1] "Sublime" with sublim(e)ate solutions.

On October 19 the Cavendish Lodge (No. 2620) will enter upon the third year of its existence, when the installation ceremony will take place of the Worshipful Master-elect, Bro. Symons Eccles. On the same evening the officers of the Lodge for the ensuing twelve months will be invested.

The want of space in the present issue of the Journal, owing to the publication of the Annual Report of the Society, List of Members and Index, has compelled me to hold over several matters of interest.

P. D.

Notice.—All communications relating to the literary part of the Journal, *books for review and exchanges, should be addressed to the Editor, 54, Wimpole Street, Cavendish Square, W. Applications for copies of the* Journal, *communications respecting advertisements, instruments, pharmaceutical preparations, &c., intended for notice, should be forwarded to the Editorial Secretary, 124, Harley Street, Cavendish Square, W.*

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REPORT FOR THE SESSION, 1897-1898.

Presented by the Council at the 16th Annual Meeting, July, 1898.

YOUR Council has much pleasure in presenting the Annual Report of the Sixteenth Session, and congratulates the members upon the increasing prosperity of the Society.

The total membership of the Society is 498. During the past Session 59 new members have been elected.

Your Council has under consideration a scheme suggested by the founder of the Society, Mr. C. B. Keetley, to acquire and furnish the top ward and accessory rooms in the new block of the West London Hospital.

(1) The top ward to be used as the Meeting Room and Library of the Society.

(2) The Sister's Room to be fitted as a Reading Room.

(3) Lavatories, Offices, and several store rooms to be provided.

Owing to the generosity of the Hospital authorities all the necessary cleaning, lighting and warming will be provided. It is proposed that the Society should contribute to the Hospital an annual honorarium of £20.

This scheme is to be combined with the housing of the members of the West London Post-Graduate School. The School will defray a portion of the total expenditure.

The sum of £75 for furniture has been sanctioned by the Council.

It is hoped that the Society will occupy the new premises at an early period of the next Session. A sub-committee, appointed by your Council, is engaged in carrying out the details of the scheme.

The over-crowding at the meetings of the Society has made it imperative that a larger Meeting Room should be obtained.

The success of the WEST LONDON MEDICAL JOURNAL has been fully maintained and it is now an important feature of the Society.

The Annual Dinner was held on February 17, 1898, at the Trocadero Restaurant, when over 90 members and guests were present.

The Dinner was held for the first time during the Winter Session, and it is hoped that this will be continued. The Cavendish Lecture was delivered on June 24, 1898, in the Town Hall, Hammersmith, before a large and appreciative audience.

The President and Council afterwards entertained about 150 members and their friends at a Conversazione. There was an interesting and instructive exhibition of surgical instruments and appliances, microscopic preparations, and dietetic products by the advertisers in the WEST LONDON MEDICAL JOURNAL. The Conversazione will be memorable as being one of the most successful in the annals of the Society.

The financial success of the Society has enabled our excellent Treasurer to continue the annual donation of £5 5s. to the West London Hospital.

Your Council deeply regrets the loss by death of three members, Mr. W. S. Battiss, Mr. E. C. Cotterell, and Dr. Leonard Remfry.

Twelve members have resigned, and four have been removed from the list of members by Law 27, owing to arrears of subscription.

The best thanks of the Society are due to the House Committee of the West London Hospital for the use of the Board Room for our meetings, and to the Lady Superintendent (Miss Hardy) and the Secretary-Superintendent (Mr. R. J. Gilbert) for their unvarying courtesy and ever-ready help to the officers of the Society.

The following papers and cases have been brought before the various meetings:

PAPERS.

PRESIDENTIAL ADDRESS.—Some Aspects of Heredity.

Mr. MAITLAND THOMPSON.—A Case of Cerebral Hæmorrhage in a child aged 13 years.

Dr. H. J. DAVIS.—Gunshot Injuries in the late Greco-Turkish War.

Mr. G. E. TWYNAM.—Nephrectomy and its Relation to Pregnancy.

Dr. THUDICHUM.—Inflammation, Abscess and New Growths in the Cavities adjoining the Nasal Cavities, and their Operative Treatment.

DISCUSSION ON THE TRANSMISSION AND DISSEMINATION OF CANCER.—Opened by Mr. C. A. BALLANCE and continued by Mr. ALBAN DORAN, Drs. MCCANN, SNOW, CHAPMAN, ATKINSON and the PRESIDENT.

Dr. SYMONS ECCLES.—The Diagnosis of Gastroptosis.

Dr. BONTOR.—A Case of Acute Leukæmia.

Mr. MCADAM ECCLES.—Operation *versus* Taxis in Strangulated Hernia.

Mr. A. H. TUBBY.—Recent Advances in the Surgical Treatment of Spastic Paraplegia and Infantile Paralysis.

PRESIDENTIAL RETIRING ADDRESS.—Some Observations on Old Age.

CASES.

Dr. J. B. BALL.—A Case of Acromegaly.

Dr. SEYMOUR TAYLOR.—Three Cases of Symmetrical Nodes of Radii in Women.
A Case of Locomotor Ataxia.

Mr. KEETLEY.—A case of Stricture of the Œsophagus and Pylorus in the same patient.
A Man Injured by a Leopard.
A Case of Erosion of the Knee-joint.
A Case of Plastic Operation on the Knee.

Mr. MCADAM ECCLES.—A Case of Depressed Fracture of the Skull Treated by Trephining.
A Case of Wandering Rash on the Tongue in a child aged 3 years.
Injury to Lower End of Left Radius, Separation of Epiphysis, with Skiagram by Dr. F. H. Low.
Two Cases of Testicular Disease.

Mr. BIDWELL.—Notes on a Case of Chancre of the Cheek.
A Case of Fractured Patella which had been wired, and then had been refractured and again wired.

Dr. WHITFIELD.—A Case of Purpura Hæmorrhagica.
A Case of Spasmus Nutans.

THE PRESIDENT.—A Case of Gastrotomy for a Foreign Body, with Skiagrams by Dr. F. H. Low.
A Case of Double Arthrectomy.

Dr. ABRAHAM.—A Case of Acute Psoriasis.

Mr. SWINFORD EDWARDS.—Case of Nephrolithotomy after Diagnosis of Calculus by means of the *x*-Rays. Skiagrams by Dr. F. H. Low.
Case of Excision of the Rectum by Kraske's Method.

PATHOLOGICAL SPECIMENS, ETC.

Dr. F. H. Low.—A Series of Skiagrams illustrating the Location of Foreign Bodies.

Mr. ERNEST CLARKE.—Three specimens of Pseudo-Glioma.
One Specimen of Perforating Ulcer of the Cornea.

Dr. SUNDERLAND.—Dermoid Ovarian Cyst.

Dr. MANSELL MOULLIN.—Specimen of Double Pyosalpinx.

Dr. MCCANN.—A series of Specimens illustrating Malignant Disease of the Cervix and Body of the Uterus, removed by Vaginal Hysterectomy.

Signed on behalf of the Council,

H. P. POTTER, *President.*
F. J. McCANN,
W. McADAM ECCLES, } *Hon. Secretaries.*

STATEMENT OF ACCOUNTS FOR FINANCIAL YEAR ENDING MAY 31st, 1898.

Dr.	£ s. d.	£ s. d.
To Balance in hand from last Account		36 13 5
,, Subscriptions, including arrears, received	106 11 0	
,, Subscriptions paid in advance..	3 10 0	
From Dinner Funds, 1897-98	1 11 7	
		111 12 7
To Subscriptions in arrear, May 31st, 1898	31 5 0	
,, Subscriptions in arrear previous to May 31st, 1897 ..	14 5 0	
		45 10 0
		£193 16 0

Cr.	£ s. d.	£ s. d.
By Grant to West London Medical Journal		25 0 0
,, Printing and Stationery :—		
Messrs. Churchman	19 13 9	
Editorial Secretary for Annual Report	4 10 0	
		24 3 9
,, Postage, &c. :—		
Dr. Wood, Session 96-97	0 6 0	
Mr. McAdam Eccles, 97-98	0 9 2	
Dr. McCann ,, ,, ...	1 18 9	
Messrs. Churchman ,, ,, ...	15 0 0	
Treasurer, for Stamped Envelopes	3 1 10	
		20 15 9
,, Refreshments :—		
Grocer	3 9 6	
Milkman	0 11 0	
Baker	0 7 7	
		4 8 1
,, Servants' Wages		4 2 6
,, Kensington Stores for Hire, Cavendish Lecture, 1897 ..		5 13 0
,, Donation, West London Hospital		5 5 0
,, Cheque Book		0 2 1
		89 10 2
,, Balance at Bank, May 31st, 1898	57 17 9	
,, Less unpresented cheques	3 2 3	
	54 15 6	
,, Cash in hands of Treasurer	4 0 4	
		58 15 10
,, Arrears of Subscriptions		45 10 0
		£193 16 0

Audited and found correct,

(Signed) F. R. MALLARD.
W. E. C. MUSSON.

June 10th, 1898.

OFFICERS AND COUNCIL.

SESSION, 1898–9.

President.

DR. S. D. CLIPPINGDALE.*

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MR. C. B. KEETLEY.

Editor of Journal.

MR. H. PERCY DUNN.

Editorial Secretary of Journal.

MR. McADAM ECCLES.

* Did not hold similar office last year.

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1882-83. E. HART VINEN, M.D.
1883-84. J. W. L. THUDICHUM, M.D.
1884-85. F. LAWRANCE.
1885-86. W. B. HEMMING.
1886-87. F. H. ALDERSON, M.D.
1887-88. C. R. B. KEETLEY.
1888-89. W. TRAVERS, M.D.
1889-90. H. CAMPBELL POPE, M.D.
1890-91. T. GUNTON ALDERTON.
1891-92. C. WELLS, M.D.
1892-93. F. SWINFORD EDWARDS.
1893-94. DONALD W. C. HOOD, M.D.
1894-95. R. J. BANNING, M.D.
1895-96. A. SYMONS ECCLES, M.B.
1896-97. W. BRUCE CLARKE.
1897-98. H. P. POTTER, M.D.

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1884. TIMOTHY HOLMES.
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1886. JONATHAN HUTCHINSON, LL.D., F.R.S.
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(Corrected to September, 1898.)

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Sir WILLIAM JENNER, Bart., G.C.B., D.C.L., LL.D., F.R.S., Bishop's Waltham, Hants.
Sir JAMES PAGET, Bart., D.C.L., LL.D., F.R.S., 5, Park Square West, N.W.
JONATHAN HUTCHINSON, LL.D., F.R.S., 15, Cavendish Square, W.
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Prof. BURDON SANDERSON, M.D., F.R.S., Oxford.

Honorary Vice-Presidents.

(Not Ex-officio Members of Council.)

J. W. L. THUDICHUM, M.D.
F. LAWRANCE.
F. H. ALDERSON, M.D.
C. B. KEETLEY.
W. TRAVERS, M.D.
H. CAMPBELL POPE, M.D.
T. GUNTON ALDERTON.

Members, September, 1898.*

* The Secretaries request that they may be informed immediately of any inaccuracy in the list or of any change of address.

The abbreviations P., T., V.P., S., C., E.P., A., L., E.J., *and* E.S.J., *are attached to the names of those who have respectively held the offices of President, Treasurer, Vice-President, Secretary, Member of Council, Editor of Proceedings, Auditor, Librarian, Editor of the* JOURNAL, *or Editorial Secretary of the* JOURNAL. *The date before each name signifies the date of election, and the letters* O.M. *signify original member.*

1897	Abel, Horace M.	... 10, King's Bench Walk, Inner Temple, E.C.
1886	Abraham, P., M.D. (V.P., S., C., E.P.)	... 2, Henrietta Street, Cavendish Square, W.
1896	Achard, A. L., M.D.	... 9, Blandford Street, W.
1896	Ackland, R. C. ...	... 13, Savile Row, W.
1896	Adams, James, M.D.	... Springwell, Barnes, S.W.
1892	Addinsell, A. W., M.B.	... 30, Ashburn Place, S.W.
1886	Albert, H. Louis	... 49, Sloane Street, S.W.
O.M.	Alderson, F. H., M.D. (P., V.P., C.)	... Southerton House, 38, Glenthorne Road, ... Hammersmith, W.
1890	Alderson, F. H., M.B.	... 2, Holland Road, W.
O.M.	Alderton, T. Gunton (P., T., V.P., S., C.)	... 82, The Grove, Hammersmith, W. ...
1889	Alexander, R. Reid, M.D.	... The Asylum, Hanwell.
1897	Allan, James, M.B.	... Springwell, Barnes.
1898	Allen, L. Lloyd	... 24, Gayton Road, Harrow.
1897	Allingham, Walter	... 32, Hill Street, Rutland Gate, S.W.

1884 Anderson, W. M., M.B. ... Norville, Alleyn Park, W. Dulwich, S.E.
1885 Andrews, Charles (A., C.) ... 8, Auriol Road, West Kensington, W.
1884 Appleton, T. A. ... ... 46, Britannia Road, Fulham, S.W.
1897 Armstead, H. W., M.D. ... 58, Chepstow Villas, W.
1897 Arthur, David, M.D. ... 276, Uxbridge Road, W.
1895 Ashe, W. P., M.D. ... 17, Alexander Square, S.W.
1885 Atkinson, T. R., M.D. ... 1, West Cromwell Road, S.W.
1893 Austen, Harold, M.D. ... 6, Devonshire Street, Portland Place, W.
1885 Ayling, Arthur H. W. ... Cleveland House, Park Street, Wellington, Salop.

1896 Bailey, H. F. ... ... The Hollies, Lee Terrace, Blackheath, S.E.
1897 Baines, E., M.B. ... ... 11, Cranley Place, S.W.
1896 Baker, C. E., M.B. ... 5, Gledhow Gardens, S. Kensington, S.W.
1897 Baker, Oswald ... ... 57, Welbeck Street, W.
1891 Baker, W. H. ... ... 152, Westbourne Grove, W.
O.M. Baldock, A., M.B. ... 180, Earl's Court Road, S.W.
1885 Ball, James B., M.D. (V.P., C., A.) ... 12, Upper Wimpole Street, W.
1883 Ballance, C. A., M.S. ... 106, Harley Street, W.
1888 Barbour, Jas. M., M.B. ... 18, Nevern Road, S.W.
1898 Barnard, Richard ... 49, Argyll Road, W.
O.M. Barnes, E. C. (V.P., C., A.)... 194, Hammersmith Road, W.
1892 Barrett, A. K. ... ... 2, Peel Place, Silver Street, W.
1887 Bartlett, Edward... ... 38, Connaught Square, W.
O.M. Barton, J. K. ... ... 2, Courtfield Road, Gloucester Road, S.W.
1889 Bateman, A. G., M.B. ... 49, Devonshire Street, W.
1897 Bathurst, L. Wood, M.D. ... 35, Colville Terrace, W.
1896 Batten, F. E., M.D. ... 124, Harley Street, W.
1888 Batten, Rayner, D., M.D. (C.) Campden Lodge, Campden Hill Road, W.
1883 Battle, W. H. ... ... 2, Mansfield Street, Portland Place, W.
1898 Beddard, A. P., M.B. ... 44, Seymour Street, W.
1891 Belben, F., M.B.... ... Royal Infirmary, Hull.
O.M. Benham, R. F. (C.) ... 9, Castletown Road, West Kensington, W.
O.M. Bennett, C. H., M.D. (A.) ... College House, Hammersmith, W.
1894 Benson, G. Vere ... ... 13, Queen Anne's Grove, Bedford Park, W.
1891 Bidwell, L. A. ... ... (V.P., S., C., E.P., E.S.J.) 59, Wimpole Street, W.
1896 Bienemann, A. J., M.B. ... 64, Shepherd's Bush Green, W.
1898 Bill, Arnold ... ... 5, Devonport Street, Hyde Park, W.
O.M. Bird, W., J.P., D.L. ... Bute House, Brook Green, Hammersmith, W.
1896 Bishop, T. H., M.B. ... 4, South Parade, Bedford Park, W.
1889 Blacker, A. B., M.D. ... 15, West Eaton Place, S.W.
1898 Blair, C. S., M.D. ... Fulwood, Kew Gardens.
1885 Blenkinsop, W. H., M.B.(C.) 7, Powis Gardens, Bayswater, W.
1894 Bolton, G. A., M.B. ... 1, Cheniston Gardens, Kensington, W.
1893 Bonney, W. Augustus, M.D. 100, Elm Park Gardens, S.W.
1889 Bontor, S. A., M.D. ... Great Berkhampstead, Herts.
O.M. Bott, Henry ... ... Brentford, Middlesex.
1889 Bourke, Wm. H., M.D. ... 8, Moreton Gardens, S.W.
1893 Bourns, N. Whitelaw, M.D. 78, Redcliffe Gardens, South Kensington, S.W.
1888 Boyton, E. T. A. ... 46, Sebert Road, Forest Gate, E.
1888 Braga, J. F. ... ... 1, Albert Villas, High Road, Chiswick.
1893 Bridgeford, Walter A. S.
1893 Brinton, R. D., M.D. ... 8, Queen's Gate Terrace, S.W.
1896 Bromet, E., M.B.... ... Mayfels, St. John's, Redhill.
1896 Browne, E. ... ... 5, Cavendish Mansions, Langham Street, W.
1890 Bruce, Robt. Marston ... Western Hospital, Fulham, S.W.
1889 Bruce, S. Noble ... ... 43, Kensington Gardens Square, W.
1898 Brunton, W. R., M.B. ... 1, St. Stephen's Gardens, East Twickenham.

1895 Buckland, F. O., M.D. ... 10, Egerton Place, S.W.
1894 Bucknill, C. R. ... ... The Hollies, Rawtenstall, Manchester.
1896 Burrell, A. W., M.D. ... 165, The Grove, Hammersmith, W.
O.M. Burt, Alfred ... ... 143, Uxbridge Road, W.
1897 Butler, C. ... ... 53, Devonshire Street, Portland Place, W.
1897 Buttar, J., M.D. ... ... 2, Princes Square, Bayswater, W.
O.M. Buxton, A. St. C. ... 44, Devonshire Street, W.

1898 Caley, H. A., M.D. ... 24, Upper Berkeley Street, W.
1896 Campbell, H., M.D. ... 23, Wimpole Street, W.
1892 Carre-Smith, H. L. ... 3, Turnham Green Terrace, W.
1896 Cathcart, G. C., M.B. ... 35, Harley Street, W.
1883 Causton, W. H., M.D. ... Albion House, St. Peter's Square, Hammersmith, W.
1896 Chaldecott, J. H. ... Madge Hill, Hanwell, W.
O.M. Chapman, C.W., M.D. (C., V.P.) 21, Weymouth Street, W.
1892 Chambers, H. W. ... 165, Goldhawk Road, W.
1892 Cheatle, G. Lenthal ... 117, Harley Street, W.
1896 Chittenden, T. H., M.D. ... 32, Ovington Square, S.W.
1884 Clark, T. Marston ... Cross Deep, Twickenham, Middlesex.
1894 Clarke, Ernest, M.D. ... 3, Chandos Street, Cavendish Square, W.
O.M. Clarke, W. Bruce, M.B. (P., C., V.P.) ... 51, Harley Street, W.
1888 Clemow, Arthur H. W., M.D. (C., S., V.P., L.) 101, Earl's Court Road.
O.M. Clippingdale, S. D., M.D. (P., V.P., C., E.P., S.) ... 36, Holland Park Avenue, W.
1897 Coates, G., M.D. ... ... 30, Brechin Place, S.W.
1889 Coker, O. C. ... ... 155, Uxbridge Road, W.
1897 Collier, E. Stansfield ... 33, Westbourne Terrace, W.
1883 Collier, M. P. M., M.S. ... 133, Harley Street, W.
1896 Collier, N. C. ... ... 10, West Kensington Gardens, W.
1890 Colman, W. S., M.D. (C.) ... 22, Wimpole Street, W.
O.M. Cooper, Alfred (T.) ... 9, Henrietta Street, Cavendish Square, W.
1895 Corbould, V. A. L., M.D. ... 43, Victoria Road, Kensington, W.
1897 Cosens, C. ... ... 49, Oxford Terrace, Hyde Park, W.
1885 Cottle, Wyndham, M.D. ... 39, Hertford Street, Mayfair, W.
1898 Coulson, J. E. ... ... St. George's Infirmary, Fulham Road, S.W.
1888 Coutts, J. A., M.B. (C.) .. 54, Upper Berkeley Street, W.
1893 Cox, A. E. ... ... Duffield House, Upton Road, Watford, Herts.
O.M. Creed, C. P. ... ... 31, Girdler's Road, West Kensington Park, W.
1897 Crichton, G., M.D. ... 96, Earl's Court Road, S.W.
1885 Crombie, J., M.B. (C.) ... Sidcup, Kent.
1895 Crookshank, F. G., M.D. ... Berry Wood, Northampton.
1898 Curtis, Montague, W. W. ... 92, Campden Hill Road, W.
1897 Cutler, L. ... ... 8, Gloucester Road, S.W.

1897 Daniel, R. N. ... ... 13, Nevern Square, South Kensington, S.W.
1884 Daniell, D. Hugo ... 53, Campden Hill Square, W.
1898 Darley-Hartley, W., M.D. ... Mayfield, Gilmour Hill Road, Cape Town.
1898 Davies, J., M.D. ... ... 87, Cambridge Gardens, W.
1897 Davis, H., M.B. ... ... 9, Norfolk Crescent, W.
1897 Dawson, S. ... ... 88, Warwick Road, Earl's Court, S.W.
1896 De Castro, G. ... ... 79, Davies Street, Berkeley Square, W.
1897 Delahunt, John ... ... 2, Sherbrooke Road, Fulham, S.W.
1895 Denne, F. V., M.D. ... 69, Brook Green, W.
1886 Des Vœux, H., M.D. (C.) ... 8, James's Street, Buckingham Gate, S.W.
1883 Dickinson, T. V., M.D. ... 33, Sloane Street, S.W.
1887 Dickinson, W. G. ... Elm Bank, West Hill, Putney, S.W.
1895 Dickman, H. G., M.B. ... Leigh House, The Terrace, Chiswick.

1897 Dickson, T. H., M.B. ... 27, Scarsdale Villas, W.
1896 Dickson, W. P. ... ... Combe Park, Weston, Bath.
1886 Diplock, L. B. ... ... Ashwood, Heathfield Terrace, Chiswick.
1896 Dobson, L., M.D. ... 59, Addison Gardens, West Kensington, W.
1892 Dockrell, Morgan, M.D. ... 9, Cavendish Square, W.
1887 Dodd, H. W. ... ... 136, Harley Street, W.
O.M. Dodsworth, F. C. (C.) ... Ingledew, Gunnersbury, W.
1898 Don, W. Walton, M.D. ... 466, Edgware Road, W.
O.M. Doran, Alban (C.) ... ... 9, Granville Place, W.
O.M. Drewitt, F. G. D., M.D. ... 2, Manchester Square, W.
1898 Ducat, Arthur D., M.B. ... Heathfield Gardens, Chiswick.
1886 Dudfield, Reginald, M.D. ... 19, Blomfield Road, Maida Vale, W.
1887 Dudfield, T. Orme, M.D. ... 14, Ashburn Place, Cromwell Road, S.W.
1884 Dunn, H. Percy ... 54, Wimpole Street, W.
(V.P., S., C., E.P., E.J.)
1897 Dunn, J. C., M.D. ... 1, Brunswick Place, Southampton.
1897 Dutch, Henry, M.D. ... 8, Berkeley Street, W.

1883 Eccles, A. S., M.B. ... 23, Hertford Street, W.
(P., V.P., S., C., E.P.)
1896 Eccles, G. Tolcher, M.B. ... 63, Sackville Road, Hove, Brighton.
1896 Eccles, H. Annesley, M.D.... Greystoke, Upper Norwood, S.E.
1890 Eccles, Wm. McAdam, M.S. 124, Harley Street, W.
(C., S., E.S.J.)
1893 Eddowes, Alfred, M.D. ... 25, Old Burlington Street, W.
1896 Eden, T. W., M.D. ... 6, Manchester Square, W.
O.M. Edwards, F. Swinford ... 55, Harley Street, W.
(P., V.P., C.)
1897 Ellacombe, G. W. ... Bitton Vicarage, near Bristol.
1893 Elliot, Andrew, M.D. (C.) ... 6, Manchester Square, W.
1896 Elliott, H. F. ... ... Sidney House, Sutton Court Road, Chiswick.
1896 Elliott, H. Scott... ... Queen's House, Victoria Road North, Southsea.
1895 English, T. J., M.D. ... 128, Fulham Road, S.W.
1888 Ensor, Edwin Thos., M.D.... 162, Ladbroke Grove, W.
1898 Evans, E. W. Spencer ... 78, Aldeney Street, S.W.

O.M. Fenton, F. E. ... ... Langstone, Ealing, W.
1897 Féré, E. N., M.D. ... 12, Northampton Square, E.C.
1897 Ferguson, G. G., M.B. ... Fern Coombe, New West End, N.W.
1893 Fincham, W. S. ... ... 53, Kew Bridge Road, Brentford.
1897 Flavelle, J. ... ... 3D, Hyde Park Mansions, W.
1897 Ford, F. C., M.B. ... 47, Ladbroke Square, W.
1888 Fountain, Ed. Osborne, M.D. 1, Arlington Place, Gunnersbury, W.
1886 Fox, Colcott, M.B. ... 14, Harley Street, W.
1896 Freyer, P. J., M.D. ... 46, Harley Street, W.
O.M. Friend, H. E. ... ... 1, St. Stephen's Crescent, Westbourne Park, W.

1897 Galloway, James, M.D. ... 54, Harley Street, W.
1887 Gardner, W. T., M.B. (C.)... 11, Branksome Terrace, Bournemouth West.
1898 Gibbes, Cuthbert C., M.D.... 83, Barkston Gardens, S.W.
1898 Gibbes, L. N. ... ... 1, Gloucester Walk, Kensington, W.
1884 Gillingham, A. ... ... 485, High Road, Chiswick.
1886 Gloster, J., M.B. ... ... 15, Upper Phillimore Place, Kensington, W.
1890 Goldney, A. G. N. ... 18, Brook Green, W.
1886 Goldney, A. C. N. ... 18, Brook Green, W.
1888 Goodsall, D. H. ... ... 17, Devonshire Place, W.
1891 Goodwin, C. F. ... ... 93, Richmond Road, Kingston-on-Thames.
1893 Gossage, A. M., M.B. ... 54, Upper Berkeley Street, W.
1894 Gowan, B. C. ... ... Ravendene, Great Stanmore, Middlesex.
1897 Granville, A. G. ... ... St. Bartholomew's Hospital, E.C.

1895	Gray, A. C. E., M.B. ...	1, Elm Park Gardens, S.W.
1894	Graydon, A.	124, Cornwall Road, Notting Hill, W.
1896	Gregory, E. T.	168, Fulham Road, S.W.
1894	Griffin, W. W., M.B. ...	34, Regency Square, Brighton.
1896	Griffith, A. L., M.D. ...	606, Harrow Road, W.
1888	Griffiths, H. T., M.D. ...	5, Kensington Square, W.
1898	Guthrie, Leonard, M.D. ...	15, Upper Berkeley Street, W.
1896	Halley, W.	Park House, Fulham Road, S.W.
1889	Handfield-Jones, M., M.D.	35, Cavendish Square, W.
1895	Handfield-Jones, C. R. ...	103, Earl's Court Road, W.
1885	Harper, Jas., M.D. (C.) ...	25, Rosary Gardens, South Kensington, S.W.
1887	Harris, Carpenter	112, Harley Street, W.
1897	Harris, Wilfrid J., M.B. ...	7, Craven Mansions, W.
1896	Harrison, C. J., M.B. ...	36, Cheyne Court, S.W.
O.M.	Harrison, H. F. E. ...	33, Shepherd's Bush Green, W.
1890	Harrison, Reginald ...	6, Lower Berkeley Street, W.
1896	Hartley, R., M.D. ...	112, Westbourne Grove, W.
1887	Hartzhorne, B. F. ...	Blenheim Lodge, High Road, Chiswick.
1896	Harvey, J. S., M.D. ...	1, Astwood Road, Cromwell Road, S.W.
1888	Heddy, W. J.	46, Redcliffe Gardens, S.W.
1890	Hill, G. W., M.D. ...	28, Weymouth Street, W.
1897	Hills, W. C. D.	18, Cathcart Road, South Kensington, S.W.
1888	Hill-Wilson, Arthur E. ...	217, Goldhawk Road, W.
O.M.	Hogan, J. C., M.D. ...	3, Redcliffe Gardens, South Kensington, S.W.
O.M.	Hood, D.W.C., M.D. (P., V.P.)	43, Green Street, W.
1896	Hogg, F. S.	102, Palace Gardens Terrace, Kensington, W.
1896	Horne, W. J., M.B. ...	17, Bartlett's Buildings, E.C.
1897	Horton-Smith, Percival, M.D.	15, Upper Brook Street, W.
O.M.	Hubbard, H. W... ...	19, Elgin Crescent, Notting Hill, W.
1894	Hughes, E. A.	12, Welbeck Street, W.
1885	Humphreys, F. W. ...	24, Sinclair Gardens, West Kensington Park, W.
1893	Hunter, William, M.D. (C.)...	103, Harley Street, W.
1887	Hurlbutt, S.	15, Old Burlington Street, W.
1896	Hyde, S., M.D.	Lismore House, Buxton.
1896	Ince, G.	Kensington Dispensary, Church Street, W.
1891	Jackson, J. C.	Town Hall, Fulham, S.W.
1896	Jackson, Surg.-Capt., M.D....	Wellington Barracks, S.W.
1895	James, J. Brindley ...	83, Bridge Road, Hammersmith, W.
O.M.	James, W. Culver, M.D. ...	15, Marloes Road, Kensington, W.
1893	Jessett, F. Bowreman ...	23, Brook Street, W.
1896	Jessop, W. H., M.B. ...	73, Harley Street, W.
1891	John, William	19, Avonmore Road, W.
1894	Johnston, George F., M.D....	6, Manchester Square, W.
1887	Jones, Macnaughton, M.D....	141, Harley Street, W.
1886	Juler, H. E.	23, Cavendish Square, W.
1891	Keen, William, M.D. ...	Argyle House, King's Road, Chelsea.
1896	Keep, A. C., M.D. ...	7, Lower Seymour Street, W.
O.M.	Keetley, C. B. ... ... (P., V.P., S., C., E.P., L.)	56, Grosvenor Street, W.
1891	Kenwood, H. R., M.B. ...	9, Alexandra Villas, Finsbury Park, N.
1884	Kiallmark, H. W. ...	5, Pembridge Gardens, W.
1897	Kingsford, B. H., M.B. ...	Maybury Road, Woking.
1897	Kirby, W., M.D.	Hilden, Sutton Court Road, Chiswick.
1896	Kloster, O., M.D.... ...	5, St. George's Square, Regent's Park, N.W.
1896	Knight, H.	Eskholme, Shirley, Southampton.

1887	Lake, Richard ... ... (C., S., V.P., E.P.)	19, Harley Street, W.
O.M.	Lamb, W. H., M.B. (C., V.P.)	23, Palace Court, W.
1894	Lancaster, H. F., M.D. ...	154, Westbourne Terrace, W.
O.M.	Lawrance, F. (P., V.P., C., T.)	360, King Street, Hammersmith, W.
1884	Leeson, Oliver J.... ...	Collingham House, Cromwell Road, S.W.
1898	Leslie, R. Murray, M.B. ...	53, Queen Anne Street, W.
1898	Levy, A. G., M.D. ...	124, Baron's Court Road, W.
1893	Lewis, Ernest Wool ...	12, King Street, Hammersmith, W.
1896	Ley, G....	4, Longfield Road, Ealing, W.
O.M.	Lloyd, R. W. (V.P., S., C., E.P.)	27, Russell Road, Kensington, W.
1892	Lloyd, F. G.	27, Russell Road, Kensington, W.
1896	Lockyer, C. H. J. ...	Charing Cross Hospital, W.C.
1892	Loftus, A. S.	Lindisfarne, Christchurch Road, Boscombe.
1883	Longhurst, A. K.... ...	Hughenden, Mount Park Road, Ealing, W.
1896	Low, F. H., M.B. (C.) ...	12, Sinclair Gardens, West Kensington, W.
1895	Low, Harold, M.B. ...	10, Eveyln Gardens, S. Kensington, S.W.
1882	Low, R. Marsden, M.B. (C.)	70, Philbeach Gardens, S.W.
1897	Low, V. Warren, M.D. ...	86, Oxford Terrace, Hyde Park, W.
O.M.	Lunn, J. R. (C.)	St. Marylebone Infirmary, Notting Hill, W.
1888	Lush, Percy J. F., M.B. (A.)	4, Maresfield Gardens, Hampstead, N.W.
1896	Lyle, F. W., M.D. ...	39, The Avenue, Castle Hill, Ealing, W.
1886	Lynch, J. Roch	74, Holland Park Avenue, W.
1890	Lynes, John	6, Argyll Road, Kensington, W.
1896	Lyth, E. R., M.B. ...	117, Goldhawk Road, W.
O.M.	Mackinlay, J. G.... ...	15, Stratford Place, W.
1898	Mackintosh, R. D., M.B. ...	The Bungalow, Mortlake, S.W.
1890	MacLaren, J. A., M.B. ...	2, Fairholme Road, W. Kensington, W.
1897	Macleod, W. A., M.B. ...	9, Pembridge Villas, Bayswater, W.
1898	Macnaughton, G. W. F., M.D.	2, Broadway Buildings, Walham Green, W.
1896	Maggs, O. H. A. ...	165, Buckingham Palace Road, S.W.
1896	Malcolm, J. D., M.B. ...	13, Portman Street, W.
O.M.	Mallam, W. P. (C.) ...	169, Uxbridge Road, W.
1891	Mallard, F. R. (A., C.) ...	23, Bridge Road, Hammersmith, W.
1890	Mansbridge, J. (C.) ...	112, Harley Street, W.
1898	Mannsell, D. F.	67, Earl's Court Road, W.
1890	Margrave, M. L.... ...	3, Devonia, Newton Abbott, Devon.
1885	Mark, Leonard ... ... (V.P., S., E.P., C., A.)	61, Cambridge Street, Hyde Park, W.
1896	Marks, H. W. J.	
1883	Marsh, Howard	30, Bruton Street, W.
1894	Martin, J. W., M.D. ...	Burnfoot, Cluden, Dumfries, N.B.
1884	Mason, J. W.	1, Osnaburgh Terrace, Regent's Park, N.W.
1884	Mason, J. W. B., M.D. ...	1, Osnaburgh Terrace, Regent's Park, N.W.
1885	Masters, J. A., M.D. (C., V.P.)	57, Lexham Gardens, Kensington, S.W.
1893	May, C. Gould, M.D. ...	26, Walton Street, Pont Street, S.W.
1894	McCann, F. J., M.D. (S., C.)	5, Curzon Street, W.
1897	McDougal, E. D. ...	Gylen, Weybridge.
1897	McNamara, J., M.B. ...	73, Milson Road, West Kensington, W.
1887	Mennell, Zebulon ...	1, Royal Crescent, Notting Hill, W.
1894	Menzies, Henry, M.B. ...	4, Ashley Gardens, S.W.
1895	Menzies, J. Herbert ... (V.P., S., C., E.P.)	47, Earl's Court Square, S.W.
1896	Miles, W. E.	St. Bartholomew's Hospital, E.C.
1895	Miller, F. R., M.D. ...	31, Shepherd's Bush Road, W.
O.M.	Miller, J. D., M.B. ...	152, Holland Park Avenue, W.
1893	Mills, H. H.	21, St. Mary Abbott's Terrace, Kensington, W.
1896	Monier-Williams, M. F. S.	54, Onslow Gardens, S.W.

1888 Moore, Stephen H. ... 75, Sydney Street, Chelsea, S.W.
1896 Morison, A., M.D. ... 14, Upper Berkeley Street, W.
1896 Morison, H. B., M.B. ... Parkwood House, Boscombe, Bournemouth.
1893 Morris, E. H. Grant, M.B.... 8, Gloucester Terrace, Onslow Gardens, S.W.
1896 Mortimer, J. D., M.D. ... 23, Cheyne Walk, Chelsea, S.W.
1896 Mossman, F. V.... ... 317, Waterloo Road, Manchester.
1896 Moullin, J. A. Mansell, M.D. 69, Wimpole Street, W.
1896 Muggleton, F. C., M.D. ... Gillingham, Dorset.
1883 Muir, J. C. P. ... ... 94, Ladbroke Grove, Notting Hill, W.
1896 Murray, C. Stormont ... 85, Gloucester Place, W.
1897 Mursell, H. Temple, M.B. ... 10, Bentinck Street, W.
1896 Musson, William C. (A.) ... 61, Bridge Avenue, Hammersmith, W.

1894 Naumann, J. C. F., M.D. ... 125, Gower Street, W.C.
1896 Nicoll, T. V. ... ... 147, Cromwell Road, S.W.
1887 Noott, W. M. ... ... 8, Kensington Park Road, W.
1896 Norman, F., M.D. ... 5, Holland Road, Brixton, S.W.

1896 Oakley, H. C. ... ... 37, Chester Terrace, Regent's Park, N.W.
1887 Orr, A. Aylmer, M.B. ... 204, Earl's Court Road, S.W.
1895 Orr, J. J., M.D. ... ... 493, King's Road, Chelsea, S.W.
1882 Orton, G. H., M.D. ... 1A, Campden Hill Road, Kensington, W.
1894 Otway, A. Caroll ... Exeter House, Barnes.
1887 Owen, Edmund ... ... 64, Great Cumberland Place.
1882 Owles, J. A., M.D. (V.P., C.) Hill View, Woking, Surrey.

1888 Paget, Stephen (C.) ... 70, Harley Street, W.
O.M. Palmer, F. S., M.D. ... Compton Lodge, East Sheen, S.W.
1887 Paramore, R., M.D. ... 2, Gordon Square, W.C.
1896 Pardoe, J. G., M.B. ... 16, Bryanston Street, W.
1894 Parker, Charles A. ... Colne Valley, Rickmansworth.
1890 Parker, W. Turnour ... 68, Lillie Road, Fulham.
1892 Part, J. Shepley ... ... 20, Ashchurch Park Villas, Shepherd's Bush, W.
1882 Patmore, Tennyson ... 44, Thornton Avenue, Chiswick.
1896 Paton, E. P , M.S. ... 84, Park Street, W.
1897 Paterson, W. B. ... ... 64, Brook Street, W.
1889 Pattison, E. S. ... ... Granville House, Fulham Road, S.W.
1886 Pearson, D. Ritchie, M.D.... 23, Upper Phillimore Place, Kensington, W.
1894 Pegler, Louis H., M.D. ... 27, Welbeck Street, W.
1897 Pendred, Vaughan, M.B. ... Fulham Union Infirmary, Hammersmith, W.
1897 Philps, F. G. ... ... 76, Redcliffe Gardens, S.W.
O.M. Pickett, J., M.D. (V.P., C.)... 26, Colville Square, W.
1894 Pillow, H., M.D.... ... 1, Pembridge Gardens, W.
1897 Pitt, F. D. ... ... Wolverton High Road, Chiswick.
1883 Pocock, F. E., M.D. ... The Limes, St. Mark's Road, Notting Hill, W.
1896 Pollock, J. D., M.D. ... 98, Earl's Court Road, S.W.
1898 Pollock, Rowland ... Penton Lodge, Mill Hill Park, W.
O.M. Pope, H. Campbell, M.D. ... 280, Goldhawk Road, Shepherd's Bush, W.
(P., V.P., S., E.P., C.)
1897 Porter, R. I. ... 61, St. Dunstan's Road, W.
1896 Potter, E. F., M.D. ... 64, Welbeck Street, W.
O.M. Potter, H. Percy, M.D. ... Kensington Infirmary, W.
(P., V.P., C.)
1896 Pritchard, O., M.D. ... 37, Southwick Street, Hyde Park, W.
1896 Propert, W. A. ... 112, Gloucester Place, W.

1897 Ramsay, H. M. ... 35A, Hereford Street, Mayfair, W.
1885 Reece, R. J., M.D. ... 62, Addison Gardens, W.
1883 Reid, John, M.D. ... 31, Bridge Avenue, Hammersmith, W.
1897 Reilly, Major E. W. ... 2, Powis Square, W.

1891	Revill, G. L. H. ...	Heighington, Lincoln.
O.M.	Richardson, Gilbert, M.D. ...	Hillside, Putney Hill, S.W.
1887	Roberts, John D. ...	103, Uxbridge Road, Ealing, W.
1890	Robinson, G. H. D., M.D.... (C., S.)	84, Park Street, Grosvenor Square, W.
O.M.	Rogers, Hildyard... ...	43, Uxbridge Road, W.
1896	Rooke, E. M.	88, Cromwell Road, S.W.
1896	Ross, F. W. Forbes, M.D....	63, Chepstow Place, Bayswater, W.
1893	Rotheroe, W. B.	40, York Place, W.
1883	Roughton, E. W., M.D. ...	38, Queen Anne Street, W.
1893	Routh, Amand J. M., M.D....	14A, Manchester Square, W.
1898	Rudd, W. A., M.D. ...	2, Circus Crescent, Mill Hill Park.
1897	Ryall, Charles	9, Bentinck Street, W.
1893	Ryall, E. C.	114, Harley Street, W.
1898	St. John, A. Storey ...	Kingsdene, Eltham.
1893	Savery, Frank (C.) ...	4, Mount Park Road, Ealing, W.
O.M.	Savill, T. D., M.D. (C.) ...	60, Upper Berkeley Street, W.
O.M.	Schacht, F. F., M.D. (V.P., S., L., C.) ...	168, Earl's Court Road, S.W.
1895	Scharlieb, H. J., M.B. ...	149, Harley Street, W.
1895	Schofield, S. R., M.B. ...	Queen's Club Gardens, West Kensington, W.
1889	Scott, A., M.D.	Bradford Street, Bocking, Essex.
1894	Scott, A. L.	Westbourne Villa, Uxbridge Road, Ealing, W.
1897	Seccombe, P., M.B. ...	45, Madeley Road, Ealing.
1886	Shadwell, H. W.... ...	Fernleigh, Arnison Road, East Molesey.
1894	Shaw, Arthur H. P. ...	Verona House, Tonbridge, Kent.
1898	Shaw-Mackenzie, J. A., M.D.	31, Grosvenor Street, W.
O.M.	Sheldon, T., M.D. ...	25, Powis Square, Notting Hill, W.
1898	Shepard, R. H.	8, West Kensington Gardens, W.
1896	Shuter, G. P., M.B. (C.) ...	Oaklands, Chiswick Lane, Chiswick.
1895	Shuttleworth, G. F., M.D....	Ancaster House, Richmond, Surrey.
1892	Slevin, P., M.D.	Fernlea, West Drayton.
1897	Smith, G. C., M.D. ...	5, Inverness Gardens, Kensington, W.
1883	Smith, H. A., M.D. ...	Burnham Lodge, Grange Road, Ealing, W.
1886	Smith, Stanley, M.D. ...	10, Kensington Gardens Square, W.
1886	Smith, Travers R., M.D. ...	13, Kilburn Park Road, N.W.
1896	Snape, E., M.D.	41, Welbeck Street, W.
1897	Snow, H., M.D.	6, Gloucester Place, Portman Square, W.
1890	Spencer, Herbert, M.D. ...	104, Harley Street, W.
1896	Spencer, M. H., M.D. ...	95, St. Mark's Road, N. Kensington, W.
1884	Spicer, R. Scanes, M.D. (C.)	28, Welbeck Street, W.
1896	Squire, J. E., M.D. ...	122, Harley Street, W.
1886	Starkie, R. F., M.D. ...	47, Sussex Street, Warwick Square, S.W.
1889	Starling, John	Hornton House, Hornton Street, Kensington, W.
1891	Startin, James	15, Harley Street, Cavendish Square, W.
1896	Staveley, W. H. C. ...	13, South Eaton Place, S.W.
1893	Steele, Russell, M.D. ...	The Red House, Hemel Hempstead, Herts.
1898	Steele, W. Kenneth ...	5, Sheffield Gardens, Kensington, W.
1888	Steer, William (C). ...	Union Infirmary, Fulham Palace Road, W.
1898	Steigmann, E. J., M.B. ...	1, Grove Park Gardens, Chiswick.
1897	Stephen, G. C., M.D. ...	54, Evelyn Gardens, S.W.
1890	Stocker, E. G.	Weedon, Northamptonshire.
1896	Stoker, George	14, Hertford Street, Mayfair, W.
1897	Sturge, H. H.	81, Elgin Avenue, W.
1887	Sunderland, Sept., M.D. ...	11, Cavendish Place, W.
1896	Sutherland, G., M.D. ...	9, Old Cavendish Street, W.
1889	Sutherland, H., M.D. (C., V.P.).	21, New Cavendish Street, W.
1896	Swinhoe, G. R.	The Close, New Swindon, Wilts.
1887	Tait, E. S., M.D.... ...	48, Highbury Park, N.

1892	Taylor, Alf. Ernest, M.B. ...	Bradbourne House, Acton, W.
1892	Taylor, Michael H. ...	16, Church Road, Richmond.
1886	Taylor, Seymour, M.D. (C.)...	16, Seymour Street, Portman Square, W.
1897	Templeton, G., M.B. ...	8, Mansfield Street, W.
1896	Thompson, G. W.	
1893	Thompson, Maitland ...	The Marlowes, Hemel Hempstead, Herts.
1897	Thomson, H. Campbell, M.D.	34, Queen Anne Street, W.
1889	Thomson, J. C., M.D. ...	111, Sinclair Road, West Kensington Park, W.
1889	Thornton, B.	Berkeley Lodge, Margate.
O.M.	Thudichum, J. W. L., M.D.... (P., V.P., C.)	11, Pembroke Gardens, Kensington, W.
1887	Times, Lawrence K. ...	23, Manchester Street, W.
1897	Townsend, M. M. ...	15, Queen Street, Hammersmith, W.
O.M.	Travers, W., M.D. ... (P., V.P., C.)	2, Phillimore Gardens, Kensington, W.
1894	Trower, Arthur	12, Moreton Gardens, S.W.
1896	Tubby, A. H., M.S. ...	25, Weymouth Street, W.
O.M.	Tuke, C. M. (C., V.P.) ...	Chiswick House, Chiswick.
1892	Tuke, T. Seymour, M.B. ...	30, Queen Anne Street, W.
1896	Tunnicliffe, F. W., M.D. ...	6, Devonshire Street, Portland Place, W.
1893	Turnbull, G. L., M.D. ...	76, Ladbroke Grove, W.
1889	Turner, W. A., M.D. ...	13, Queen Anne Street, W.
1897	Twynam, A. E. E. ...	29, Auriol Road, West Kensington, W.
1896	Twynam, G. E.	31, Gledhow Gardens, South Kensington, S.W.
1896	Tyson, W. J., M.D. ...	10, Langhorne Gardens, Folkestone.
1896	Vallencey, A. d'Estampes ...	283, King Street, Hammersmith, W.
1896	Vivian, P.	12, West Kensington Mansions, W.
1891	Vicars, G. Fred., M.D. ...	22, Ovington Gardens, S.W.
1885	Wainewright, B., M.D. ...	47, Weymouth Street, W.
1898	Waggett, E. B., M.B. ...	45, Upper Brook Street, W.
1895	Wakefield, R. Clark, M.D....	206, Ladbroke Grove, W.
1896	Walker, A. H., M.B. ...	Thorn Croft, High Road, Chiswick.
O.M.	Walker, Horace (C.) ...	143, Hammersmith Road, W.
1889	Wall, Reginald B. ...	78, Bishop's Road, W.
1896	Wallace, F. G., M.B. ...	104, Earl's Court Road, S.W.
1886	Walsh, David, M.D. ...	5, Pump Court, Temple, E.C.
1896	Walters, F. R., M.D. ...	60, Welbeck Street, W.
1897	Waterhouse, H. F. ...	81, Wimpole Street, W.
1897	Watson, J. K., M.D. ...	Byfleet, Surrey.
1892	Watts, Guy A. T., M.B. ...	36, Russell Road, Kensington, W.
1890	Waugh, H. D., M.D. ...	6, Sumner Place, Onslow Square, S.W.
1888	Webb, H.	Wentworth House, Parson's Green, S.W.
1890	Weldon, George, M.B. ...	84, Brompton Road, S.W.
1885	Wells, A. G. (C., V.P.) ...	Keith House, Beaumont Terrace, W. Kensington.
1893	Wharry, H. G. Oliphant ...	65, Park Street, Grosvenor Square, W.
1884	Wheatley, A. W., M.B.(A.)...	3, Kensington Court, W.
1891	White, C. Percival, M.B. ...	144, Sloane Street, S.W.
1888	White-Cooper, G., M.B. ...	5, Courtfield Road, S.W.
1885	Whitmore, W. Tickle ...	7, Arlington Street, S.W.
1896	Whitfield, A., M.D. ...	12, Upper Berkeley Street, W.
1890	Wilkin, G. C.	40, Devonshire Street, W.
O.M.	Wilkins, H. G.	Bolingbroke, Uxbridge Road, Ealing Common.
1888	Williams, Alex. L. ...	1, Brunswick Terrace, Kensington, W.
1887	Willcocks, Frederick, M.D....	14, Mandeville Place, W.
O.M.	Williams, H., M.D. ...	Hillside, Guilsborough, Northampton.
1890	Williams, H. Lloyd ...	2, Upper Wimpole Street, W.
1897	Williams, J. W.	128, Mansfield Road, Haverstock Hill, N.W.
1897	Williams, L. L. Bulkeley, M.B.	8, York Street, W.

1889	Williams, R. Muzio, M.D. ...	35, Kensington Park Gardens, W.
1896	Wilmer, C. H.	Narborough, Leicestershire.
1891	Wilson, R, W., M.D. ...	The Moorings, Ennerdale Road, Kew Gardens.
1891	Wilson, William, M.B. ...	184, Goldhawk Road, W.
1889	Woakes, Edward, M.D. ...	78, Harley Street, W.
1897	Woakes, C.	78, Harley Street, W.
1889	Wood, N. T. (s., c.) ...	42, Elvaston Place, S.W.
1884	Woodforde, A. P. ...	160, Goldhawk Road, Shepherd's Bush, W.
1897	Woodhouse, W.	Kensington Infirmary, W.
1889	Wornum, G. P.	6, College Terrace, Belsize Park, N.W.
1894	Yearsley, P. Macleod ...	33, Weymouth Street, W.

Foreign and Corresponding Members.

1884	Atkinson, J. M., M.B. ...	Civil Hospital, Hong Kong.
O.M.	Beckingsale, D. L., M.D. ...	Vernon, British Columbia.
1896	Bidwell, Lawrence, R.N. ..	H.M.S. *Royal Oak*, Mediterranean Station.
1889	Brown, Capt. F. J. ...	Royal Army Medical Corps.
1897	Buendia, N., M.D. ...	Bogota, Columbia.
1896	Dardel, Jean, M.D., ...	Aix les Bains, Savoie, France.
1885	Davis, Major E.	Royal Army Medical Corps.
1885	Edwards, Capt. W. R., M.D.	I.M.S,, Bengal Army.
1884	Harvey, Genl. R., D.S.O., M.D.	I.M.S., Bengal Army.
O.M.	Hendley, Major H. (s.) ...	I.M.S., Race View, Simla, India.
1883	Hendley, Col. T.H., C.I.E...	I.M.S., Bengal Army.
O.M.	Huggard, W.R., M.D. ...	Davos Platz, Switzerland.
1892	Humphry, A. D.	Kurseung, Bengal.
1893	Krohn, R.G.S., M.D. ...	Funchal, Madeira.
1896	MacDougall, J. A., M.D. ...	Villa Letterewe, Cannes.
1885	McCulloch, Capt. T. C. ...	Royal Army Medical Corps.
1891	Mangan, Capt. F. M. ...	Royal Army Medical Corps.
1889	Napier, A. Leith, M.D. ...	Adelaide Hospital.
1891	Newman, Capt. E. A. ...	I.M.S., c/o Messrs. Watson, Apollo St., Bombay.
1887	Odling, T. F., C.M.G. ...	Teheran, Persia, c/o Messrs. Hickie, Bowman & Co., 14, Waterloo Place, S.W.
1883	Walsh, Major J. H. T. ...	I.M.S., Bengal Army.
1889	Webster, G. A., M.D. ...	Caulfield, Melbourne.

INDEX.

PAGE

ACROMEGALY, a case of, by Dr. J. B. Ball 42
Angina pectoris, a case of, with remarks 137
Aneurism of the aorta, a case of 316
Ani pruritus 314
Antrum, empyema of 313
Arthrectomy, a case of double, by H. Percy Potter 286

BALL, Dr. J. B., lecture on cases from the throat department 128
,, ,, see "Mirror of Practice."
Ballance, C. A., on the transmission and dissemination of cancer ... 77
Bidwell, L. A., see "Mirror of Practice."
Bontor, Dr. Sydney A., on a case of leukæmia 237
Bronchitis and pulmonary gangrene, treatment of... 313

CANCER, the transmission and dissemination of 77
Carbolic acid, vinegar as an antidote to 132
Carcinoma recti, a case of, by F. Swinford Edwards 291
Cataract extraction, cases of, in old people 55
,, incipient senile, the treatment of (lecture on) 294
Cavendish lecture, the 155
Cauterisation, hot air 50
Chancre, primary of the cheek, a case of, by L. A. Bidwell 48
Chapman, Dr. Charles W., see "Mirror of Practice."
Conversazione, the annual 260
Creosote in gastro-enteritis in infants 316
,, for constipation 317
Cyst, dermoid ovarian, specimen of, by Dr. Septimus Sunderland ... 50

DAVIS, Henry J., on gunshot injuries in the late Greco-Turkish War ... 17
Dinner, the past and present West London Hospital 253
Dunn, Percy, see "Mirror of Practice."
,, ,, lecture on incipient senile cataract and its treatment ... 294

ECCLES, Dr. Symons, on the diagnosis of gastroptosis 175
Eccles, W. McAdam, on operation *versus* taxis in strangulated hernia... 210
Edwards, F. Swinford, see "Mirror of Practice."
Ether narcosis in children 315
Eye globes, diseased, specimens of (illustrated), by Ernest Clarke ... 49

FRONTAL bone, a case of compound depressed fracture of, and trephining of the, by W. McAdam Eccles 46

GASTROPTOSIS, the diagnosis of 176
Gastrotomy, a case of, for foreign body, by H. Percy Potter 227
Gestation, ectopic, at term 282

PAGE

HÆMORRHAGE, cerebral, a case of, in a child 54
Hemiplegia, prognosis in 317
Heredity, some aspects of 1
Hernia, ultimate results of operations for 34
„ strangulated, operation *v.* taxis in... 210

INJURIES, gunshot, in the late Greco-Turkish War 17

KNEE, a case of plastic operation on the, by C. B. Keetley 288
„ joint, a case of erosion of, by C. B. Keetley 287

LEOPARD, a case of injury by a, by C. B. Keetley 228
Lewis, E. W., see "Mirror of Practice."
Leukæmia, a case of 237
Library, report of the... ... ... 65, 148, 251, 312
Locomotor ataxia, a case of, by Dr. Seymour Taylor 229

MANSELL-MOULLIN, Dr., on ectopic gestation at term 282
„ „ pathological specimen of thickened Fallopian tubes 243
Marsh, Howard, on growth as an agent in (1) the production, (2) the removal of deformity (the Cavendish Lecture) 155
McCann, Frederick, J. Dr., "See Mirror of Practice."
Members, list of new, elected in December quarter... 69
MIRROR OF PRACTICE, THE:—
Three cases of urinary surgery, by F. Swinford Edwards 51
A case of cerebral hæmorrhage in a child, aged 13, by Maitland Thompson 54
Cases of cataract extraction in old people, by Percy Dunn 55
A case of angina pectoris, with remarks on the treatment of the disease by vaso-dilators, by Dr. Charles W. Chapman... ... 137
A case of the morphia habit, with remarks, by Dr. Seymour Taylor 138
A case of abdominal hysterectomy, by the intra-peritoneal method, for a uterine fibroid causing retention of urine, by Dr. Frederick J. McCann 244
A case of embryotomy, by Dr. G. Drummond Robinson, and E. W. Lewis 246
A case of hæmorrhage following removal of adenoid vegetations, by Dr. J. B. Ball 305
Omental adhesions producing chronic obstruction—division of adhesions, by Leonard A. Bidwell 307
Morphia habit, the, a case of 138

NASAL cavities, inflammation, abscess, and new growths in the, and their operative treatment 96
Nephrectomy and its relation to pregnancy 106
Nephrolithotomy, a case of, by F. Swinford Edwards 292
Neuritis multiple, following influenza 136
New preparations, notes on 70, 149, 318
Nodes, symmetrical tertiary, of the radii, by Dr. Seymour Taylor ... 44
Notes and news 74, 150, 269, 319

ŒSOPHAGEAL and pyloric stricture, cases of, by C. B. Keetley... ... 44
Old age, some observations on 275

PATELLA, a case of refracture after wiring of the left, by L. A. Bidwell 233
Paralysis, infantile and spastic, the surgical treatment of 214

PAGE

Placenta prævia, cases of 316
Potter, H. Percy, on some aspects of heredity 1
" " some observations on old age 275
Post-graduate tuition in London 66, 133, 252, 301
" " West London Lectures, I. 128
" " " " II. 294
Proceedings, Report of 35, 117, 227, 286
Psoriasis, a case of acute, by Dr. Abraham 232
Purpura, a case of, by Dr. Whitfield 48

RADIUS, injury to the lower end of the, by W. McAdam Eccles ... 231
Report, the annual 323
REVIEWS AND NOTICES OF BOOKS:—
Ringer's handbook 58
Walsh on Röntgen Rays in medical work 59
Anderson on medical nursing 60
Dührssen on obstetric practice 61
Symons Eccles on massage 63
Stephen Paget on John Hunter 63
The Tallerman treatment 142
Lewers on the diseases of women 143
Aldersmith on ringworm 144
Stephen Paget on Ambroise Paré 146
Holthouse on convergent strabismus 147
Anatomical lecture diagrams 147
Hall on medical examination for life insurance 248
Roughton on oral surgery 249
Martindale and Westcott's extra pharmacopœia 249
Beevor on diseases of the nervous system 250
Handy guide to the alterations in the B.P., 1898 250
Shaw-Mackenzie on maternal syphilis 309
Hyde on Buxton 310
Corfield on dwelling houses 310
Gant on our dead selves to higher things 311
Mansell-Moullin on inflammation of the bladder and urinary fever... 311
Robinson, Dr. G. Drummond, see "Mirror of Practice."

SCARLET fever, with eruption limited to face 141
Spasmus nutans, a case of, by Dr. Whitfield 231
Steel sounds, disinfection of 314
Sterility, primary, remarks on 226

TAYLOR, SEYMOUR Dr., see "Mirror of Practice."
Testicular disease, two cases of, by W. McAdam Eccles... 289
Thompson Maitland, see "Mirror of Practice."
Thudichum, Dr., on inflammation, abscess and new growths adjoining the nasal cavities, and their operative treatment 96
Tongue, a wandering rash on the, by W. McAdam Eccles 230
Tubby, A. H., on the surgical treatment of spastic and infantile paralysis 214
Twynam, G. E., on nephrectomy and its relation to pregnancy... .. 106

URETER, supernumerary 315
Urinary surgery, three cases of 51

WEST London Hospital dinner, the.. 253
Whooping cough, duration of, infection in.. 243

NB647